FOUNDED IN 1856

RAILWAY AGE

FEBRUARY 19, 1949

McCARTNEY LIBRARY
GENEVA COLLEGE

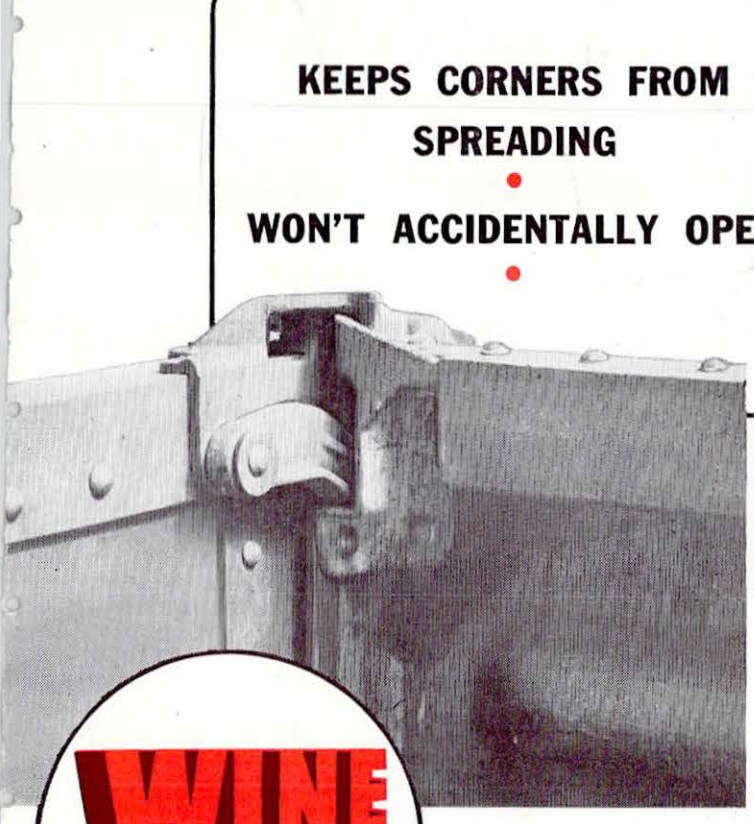
INTERLOCKED ...ALL WAYS!

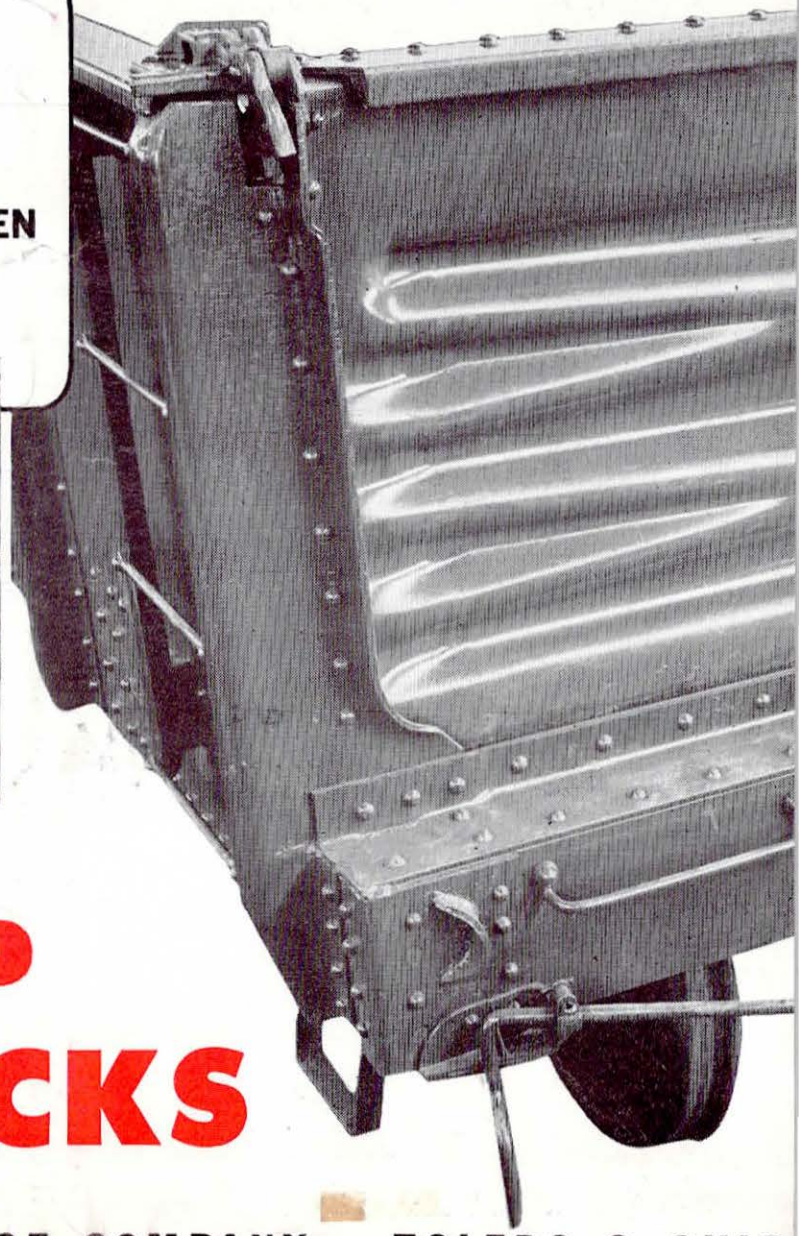
KEEPS CORNERS FROM SPREADING

•

WON'T ACCIDENTALLY OPEN

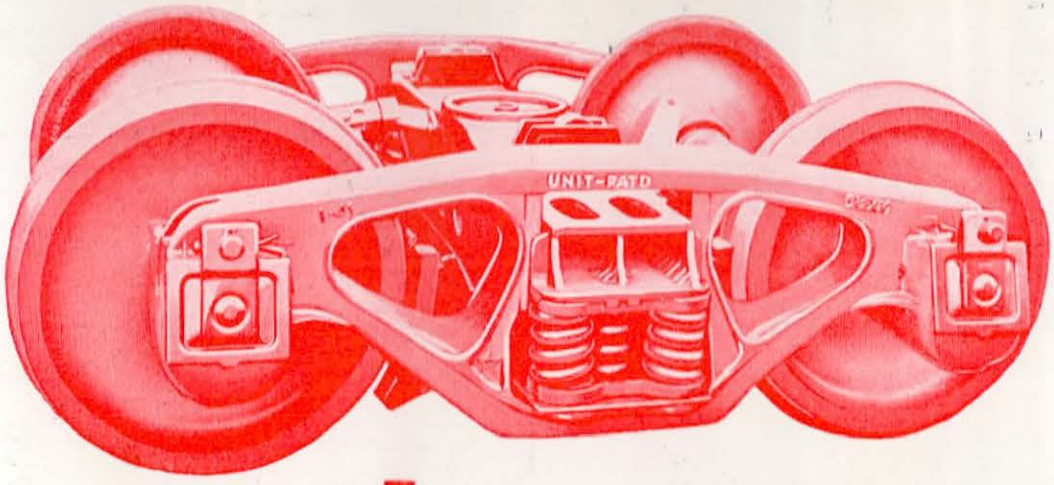
•



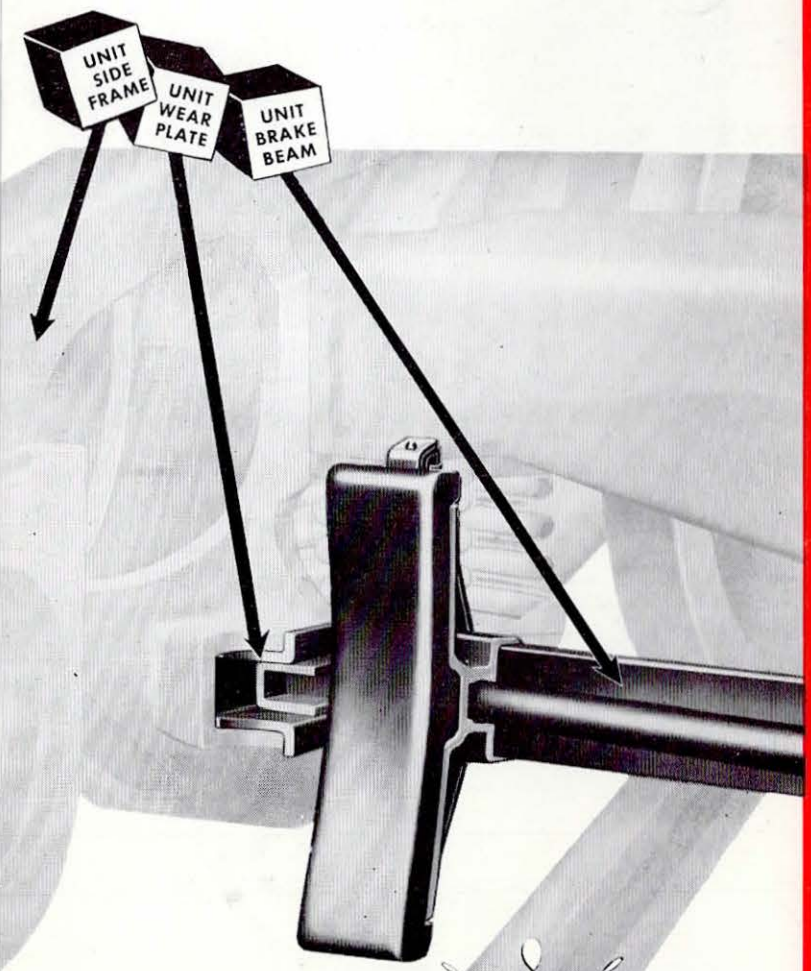


DROP END LOCKS

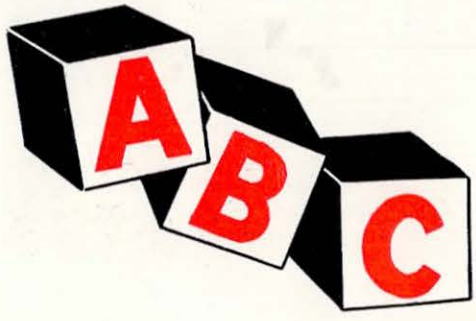
THE WINE RAILWAY APPLIANCE COMPANY...TOLEDO 9, OHIO



UNIT TRUCK IS SIMPLE AS



THAT'S ALL THERE IS TO A UNIT TRUCK—no hangers—no hanger pins—no cotters—no safety supports—no other supplementary devices to maintain.



How You Can "Find"

33%

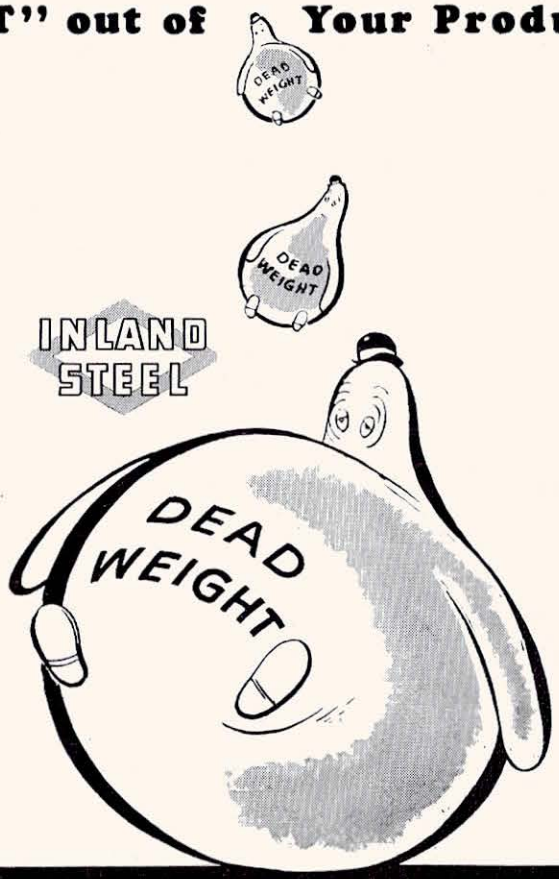
More Steel

Squeeze the "DEAD WEIGHT" out of Your Product

By using Inland HI-STEEL instead of ordinary structural steel, you eliminate considerable tonnage which adds only dead weight to your product. HI-STEEL has nearly twice the working strength of ordinary structural steel and 50% greater ability to stand up under impact loads. That's why, with HI-STEEL, it is practical and safe to plan on reducing sectional thicknesses at least 25% in most structural applications. Thus, HI-STEEL gives you the same production with 75% of your steel . . . or, using your entire steel supply, gives you one-third *more* production.

Write for booklet. INLAND STEEL CO., 38 S. Dearborn St., Chicago 3, Ill. Sales Offices: Chicago, Davenport, Detroit, Indianapolis, Kansas City, Milwaukee, New York, St. Louis, St. Paul.

HI-STEEL meets the requirements of SAE Specification 950



INLAND HI-STEEL

Reg. U. S. Pat. Off.

THE LOW-ALLOY HIGH-STRENGTH STEEL

Published weekly by Simmons-Boardman Publishing Corporation, Orange, Conn. Executive Offices, 30 Church Street, New York 7, N. Y. Entered as second class matter at Orange, Conn., under the act of March 3, 1879. Subscription price $6.00 for one year. U. S. and Canada. Single copies. 50 cents each. Vol. 126, No. 8.

...Mark of PROGRESS in Railroading

Lower-

Erie Railroad sells "Velvet Track"

BALLASTED BY PULLMAN-STANDARD POWER TRACK BALLASTER

(This advertisement ran in national magazines in December.)

Thanks to the "Rolling Bird Cage"

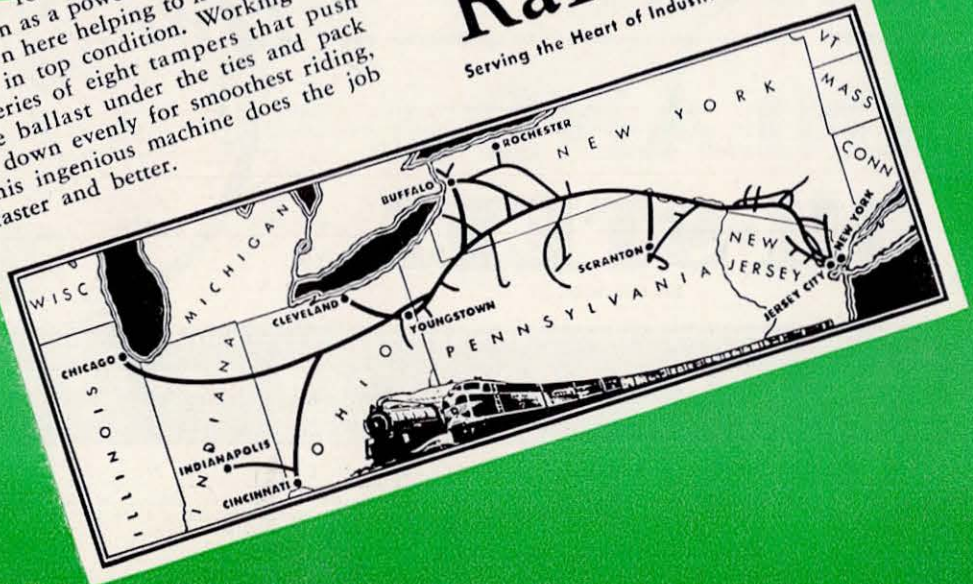
ANY RAILROAD MAN will tell you that the key to smooth riding for both passenger and freight trains is a well-maintained, stone ballast roadbed. So it's small wonder the Erie is proud of its main line, completely stone ballasted all the way from New York to Chicago.

Erie's "rolling bird cage" (properly known as a power ballast machine) is shown here helping to keep the roadbed in top condition. Working with a series of eight tampers that push the ballast under the ties and pack it down evenly for smoothest riding, this ingenious machine does the job faster and better.

Of course, the power ballast machine is only one of the important reasons for Erie's famed roadbed—one of the best maintained in all America. It does point up how Erie's progressive railroading works continuously and efficiently on the job of providing safe, dependable transportation for both passengers and freight.

Erie Railroad

Serving the Heart of Industrial America



cost Ballasting pays for machine ...

"Mechanization of track maintenance is one of the fastest-moving trends in railroading today"... Power Ballaster machines produce better work for about half the cost.

● Investigate the savings per mile of track earned by the Pullman-Standard Power Ballaster, as compared with any other kind of ballasting operation. You'll find how quickly these machines will pay for themselves out of time and money saved.

Compare the work. Not only is the Power Ballaster amazingly faster, but it turns out a uniformity of ballast compaction unrivaled by other tamping methods.

These machines operate successfully in all types of ballast, with any track lift. And their economy of operation permits comprehensive spotting operations—track base correction, tightening loose ties—with or without a slight track raise. Mechanize your track improvements, and *sell* the advantages of smoother-riding trains. Write for complete information and comparative operating cost studies.

***New!* BALLAST FEED SHOE ATTACHMENT**

Cut shows tamping shoes at low position along the tie base. Ballast feed shoes are in extended position; these work the loose ballast back between the ties, as needed. Now available for machines in service.

Power Ballaster Division

79 East Adams Street, Chicago 3, Illinois

Pullman-Standard

CAR MANUFACTURING COMPANY

2 Steam Locomotives replaced by 1 Diesel Electric on the St. Louis Southwestern

Baldwin 2000-hp. diesel-electric transfer locomotive No. 260 was recently placed in service by the St. Louis Southwestern at Waco, Texas, enabling removal of two steam engines.

The new diesel-electric is operating on two freight runs out of Waco; one to Gatesville, leaving Waco about 11:00 AM and returning about 7:00 PM; and then to Corsicana, leaving Waco about 9:00 PM and returning before 5:00 AM the following morning.

The locomotive operates from 18 to 20 hours each day, making a total of 203 miles on the two runs. On the Corsicana run, which includes some grades up to 1.7% maximum, the diesel is handling approximately 3,000 tons and the maximum permissible speed, which is being made between Corsicana and Waco, is 45 miles per hour for freight trains.

BALDWIN

The Baldwin Locomotive Works, Philadelphia 42, Pa., U.S.A. Offices: Boston, Chicago, Cleveland, Houston, New York, Philadelphia, Pittsburgh, San Francisco, Seattle, St. Louis, Washington. In Canada: Canadian Locomotive Company, Ltd., Kingston, Ontario.

Mr. Chief Mechanical Officer:

WHEN THE BOSS SAYS "CUT COSTS" HERE'S A GOOD PLACE TO START!

THIS

and THIS

and THIS ADD UP TO TOO MANY DOLLARS!

Eliminate these operations and SAVE!

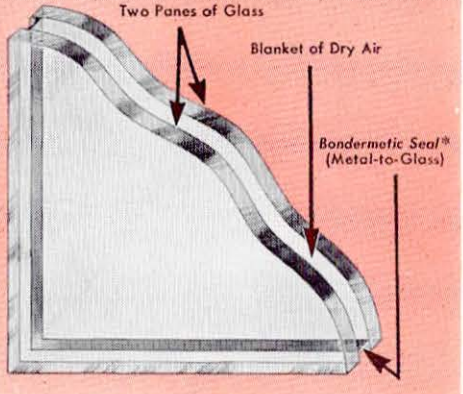
Save Real Money with *Thermopane*

Figure it out for yourself! Maintenance costs pile up when you have to take the double windows on your coaches apart, clean the inner surfaces and reassemble the windows many times a year. With *Thermopane**, those jobs are completely unnecessary. Your cost sheets look decidedly better.

Naturally, it requires more than our say-so to prove it . . . your costs and our prices.

We'll bet you'll recommend installing *Thermopane* windows when you stack up their original price against a time study of your window maintenance costs.

Why not get the facts and compare?



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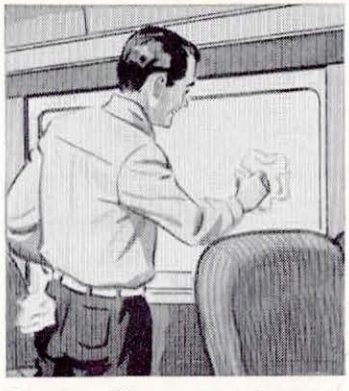
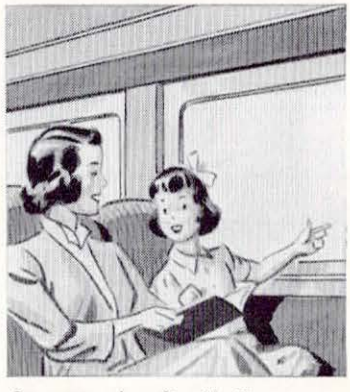


You clean Thermopane only on two surfaces. It's a sealed unit. No dirt or moisture can get between the panes. All three operations required to clean other double windows are eliminated.



Passengers benefit with **Thermopane** windows, too. Visibility is better, unobscured by frost or condensation. They enjoy the passing view through windows that are always clearer.

L O F

Thermopane

MADE ONLY BY

LIBBEY·OWENS·FORD GLASS COMPANY

3829 Nicholas Building, Toledo, Ohio

EXIDE-IRONCLAD BATTERIES
for Diesel Locomotive Cranking

Exide-Ironclad Batteries are *different*—in design, construction, service qualities. They're built specifically for the job . . . . by engineers who for many years have been closely associated with the problems of Diesel engine starting. Exide-Ironclad Batteries have tremendous reserve power and the ability to discharge at high rates and at high voltage. Because of their dependable performance and extra long life, more Exide-Ironclad Batteries are cranking Diesel locomotives than all other makes of batteries combined.

"Exide-Ironclad" *Reg. Trade-Mark U. S. Pat. Off.*

1888
DEPENDABLE BATTERIES FOR 61 YEARS
1949

DEPENDABLE

MANY OUTSTANDING FEATURES

POSITIVE PLATE consists of a series of slotted tubes containing the active material. So small are these slots that, while permitting easy access of electrolyte, they retard the active material from readily washing out or jarring loose.

NEGATIVE PLATE, built extra thick to equal the increased life of the positive plate.

MIPOR SEPARATORS, of special rubber composition, rest on ribs well below plates, greatly reducing probability of internal short circuits.

MOLDED CONTAINER is especially designed to withstand the severe conditions encountered in locomotive service.

COPPER INSERTS ON TERMINALS assure high cranking rates and low voltage drop.

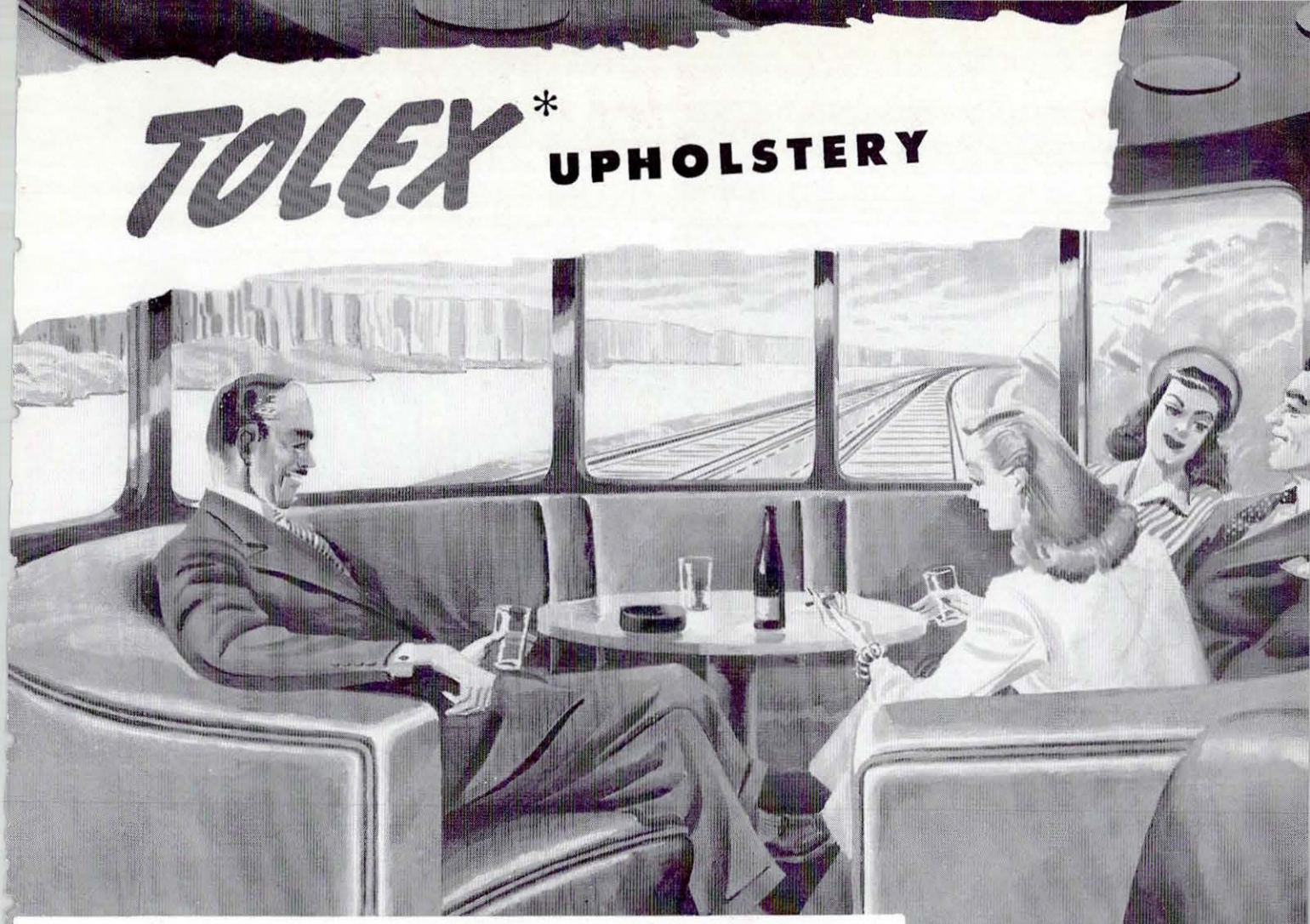
MOLDED-IN HANDLES . . . for ease in handling.

BUFFER PADS on bands around container provide for increased ventilation, prevent accumulation of dirt and moisture.

When It's An Exide-Ironclad—*Your Diesels Start!*

THE ELECTRIC STORAGE BATTERY COMPANY, Philadelphia 32 • *Exide Batteries of Canada, Limited, Toronto*

TOLEX* UPHOLSTERY



. . . GETS THE RIGHT OF WAY FOR SMARTNESS AND LONG WEAR!

You gain passenger-approval when you improve the appearance and serviceability of seating in club cars and coaches . . . with TOLEX upholstery!

Also, you *reduce costs*—because this super-tough plastic leathercloth wears so much longer . . . withstands hard usage. Tolex is performance-proved. It's water-proof . . . easy to clean . . . stain-resistant . . . can be made *fire-resistant.* Broad range of striking colors and effects. Specify Tolex upholstery for new equipment and replacement.

Write today for samples and details. Textileather Corporation, Toledo, Ohio.

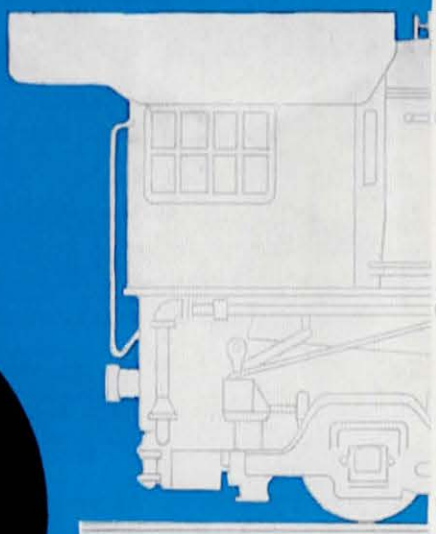
*Reg. U.S. Pat. Off.

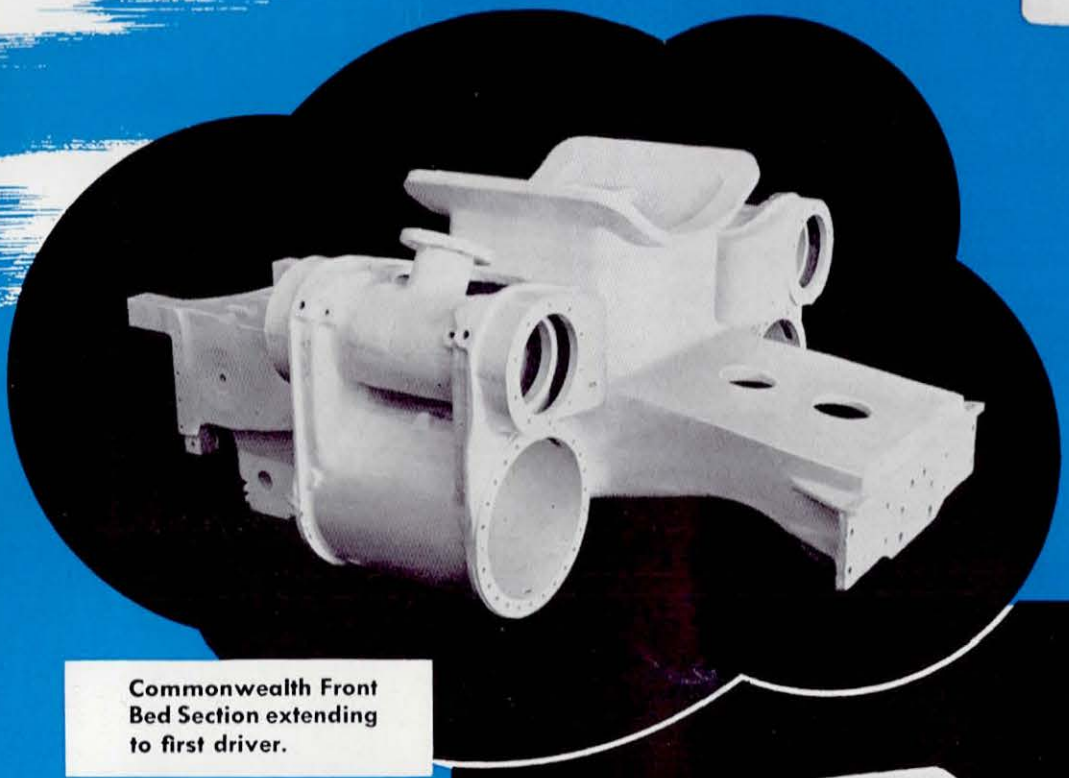
35 Years of Public Acceptance

TEXTILEATHER*

NOT LEATHER

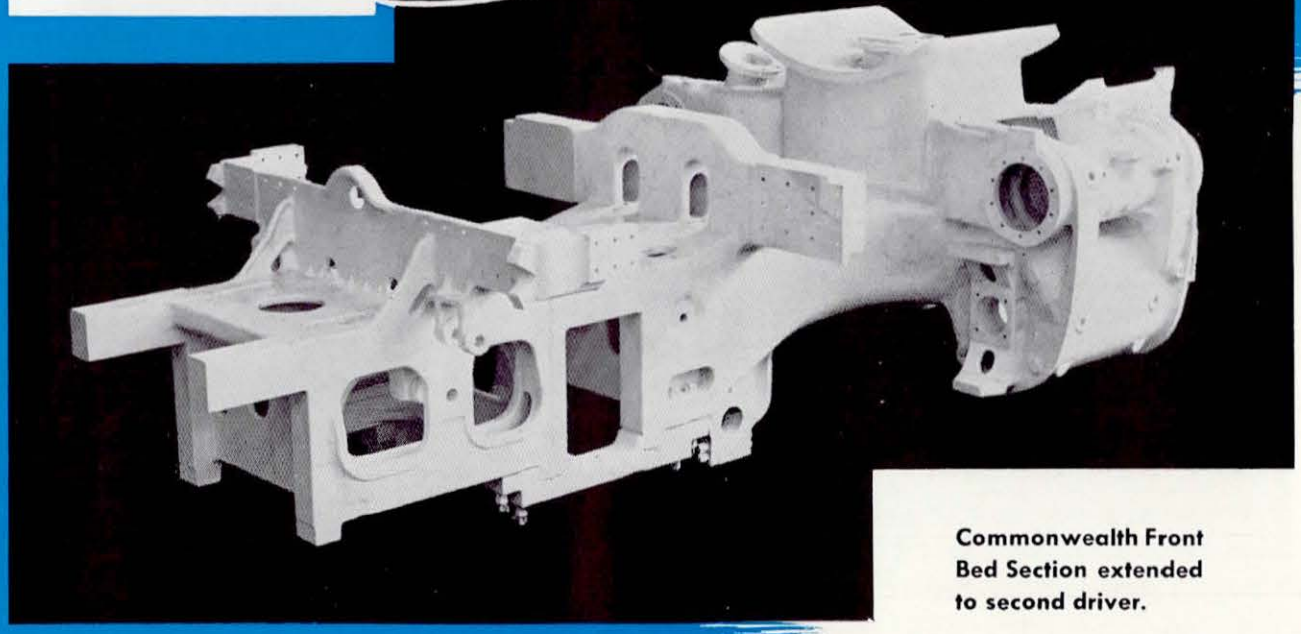
to STRENGTHEN
Your Bar Frame





Commonwealth Front Bed Section extending to first driver.

Apply

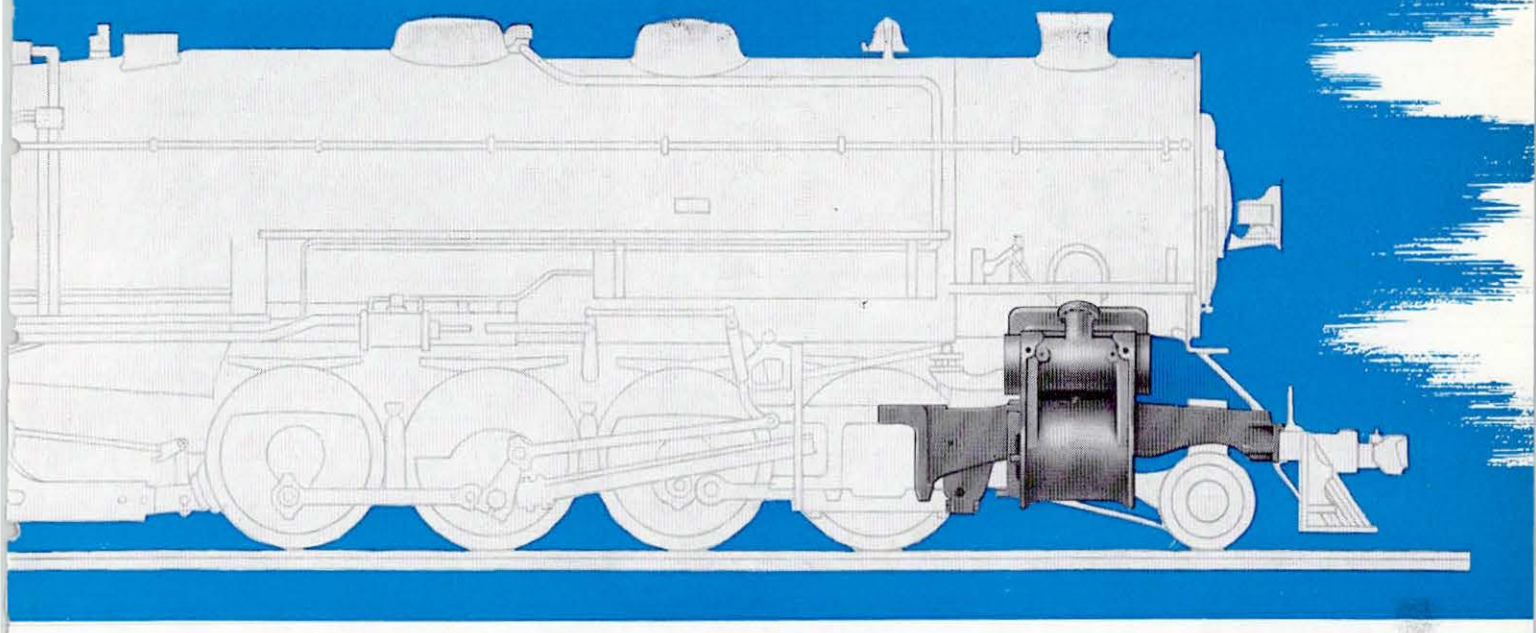


Commonwealth Front Bed Section extended to second driver.

GENERAL

GRANITE CITY, ILL.

and IMPROVE Locomotives



COMMONWEALTH One-Piece Cast Steel FRONT BED SECTIONS

To conserve secondary steam power and to materially improve performance, many railroads are applying COMMONWEALTH One-Piece Cast Steel FRONT BED SECTIONS with integral cylinders to their bar frame steam locomotives. These castings follow the same highly successful and thoroughly proven design developed for COMMONWEALTH One-Piece Locomotive Beds.

COMMONWEALTH Front Bed Sections are designed to extend to the first or second driving wheel pedestal—depending upon your particular requirements. They strengthen bar frame locomotives at their weakest points and overcome costly failures of bolted cylinders and front portions of main frames. Continuous loosening of cylinder bolts is eliminated, maintenance expense reduced and greater availablity for service is assured.

The improved COMMONWEALTH cylinder design provides free-flowing exhaust and steam passages which effectively step up operating efficiency.

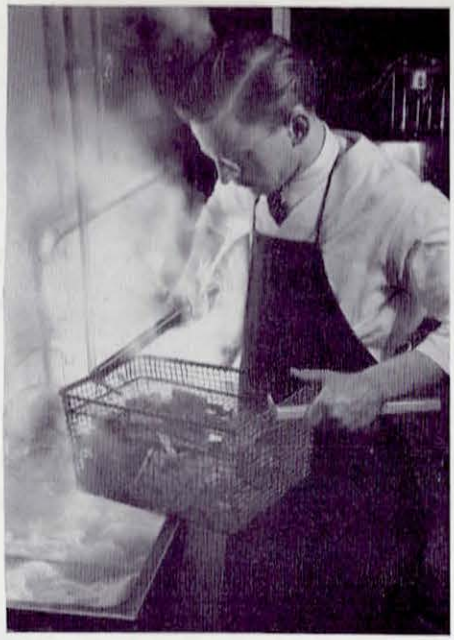
Over 700 steam locomotives on 23 railroads have been modernized with COMMONWEALTH Front Bed Sections, and will serve more efficiently for years to come.

STEEL CASTINGS

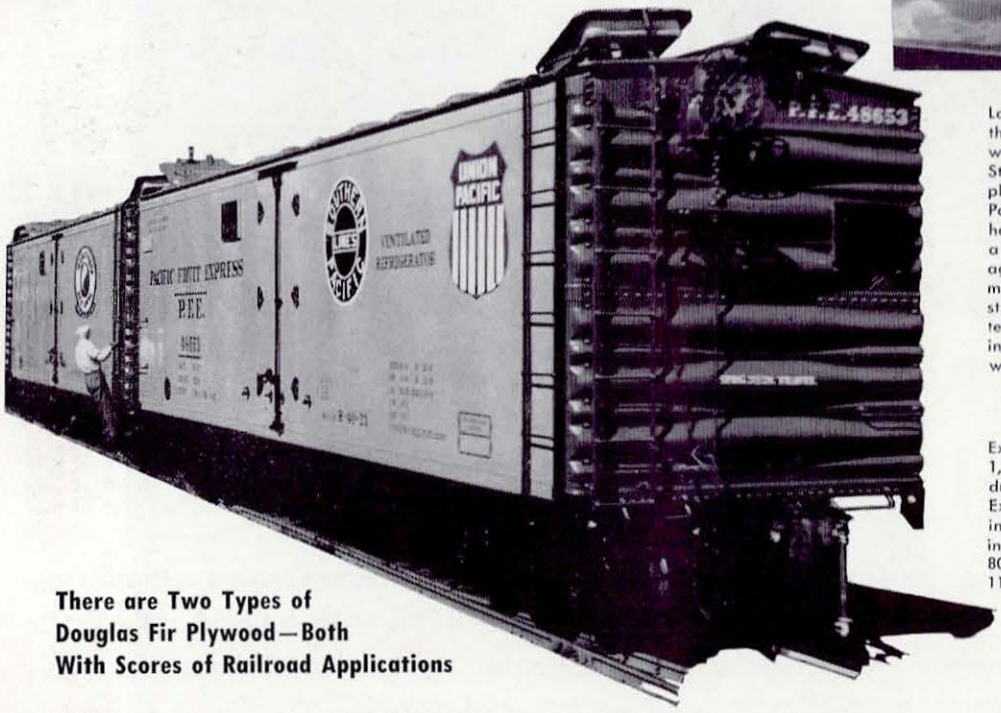
EDDYSTONE, PA.

Plywood Gets Rougher Treatment in Laboratory Torture Chamber Than "Working on the Railroad"

RAILROAD service demands a tough, durable, able-to-take-it material. And so do the laboratory performance tests to which Douglas fir plywood is constantly subjected. Plywood's inherent characteristics—strength, rigidity, lightness and workability . . . its resistance to puncture, splitting and abrasion—make it an ideal answer to hundreds of railroad uses. The large, durable panels cover areas quickly, are easy and economical to handle and apply—and once applied give years of really satisfactory service.



Laboratory tests are tough! Above is the boiling test for Exterior-type plywood, as outlined in U. S. Commercial Standard CS45-48. Samples of Exterior plywood are collected at random from Pacific Northwest plants, boiled four hours . . . then baked for 20 hours in a 145-degree oven . . . then boiled again. While still wet, shear-testing must show the adhesive bond to be stronger than the wood itself. These tests, part of the industry's continuing quality-control program, prove plywood can really take it!



Exterior of completed reefers—two of 1,250 built at the Pacific Car and Foundry Company, Renton, Washington. Exterior-type plywood is used as lining, ceilings and bulkheads, as well as in bunkers. Each car has a capacity of 80,000 pounds, with ice tanks holding 11,500 pounds.

There are Two Types of Douglas Fir Plywood—Both With Scores of Railroad Applications

EXTERIOR-TYPE . . . Identified by the industry "grade-trademark" EXT-DFPA on every panel, Exterior-type Douglas fir plywood is manufactured with completely waterproof phenolic resin adhesive — now meeting even more rigid performance requirements—especially for permanent exposure to weather, water or abnormal moisture conditions. It has been used with outstanding success for car siding, for lining reefers, for the exteriors of maintenance buildings and stations. Several appearance grades are available, each meeting a specific use need.

INTERIOR-TYPE . . . Made with improved, highly moisture-resistant (but not waterproof) glues, Interior-type Douglas fir plywood has scores of applications in the railroad field. It has been used for the ceiling and lining of box cars, passenger cars and other rolling stock . . . for counters, booths, built-ins, baggage racks and similar car and building detail. A special grade—Plyform—is made specifically for multiple re-use concrete form work . . . and the several other appearance grades all have a wide range of railroad uses.

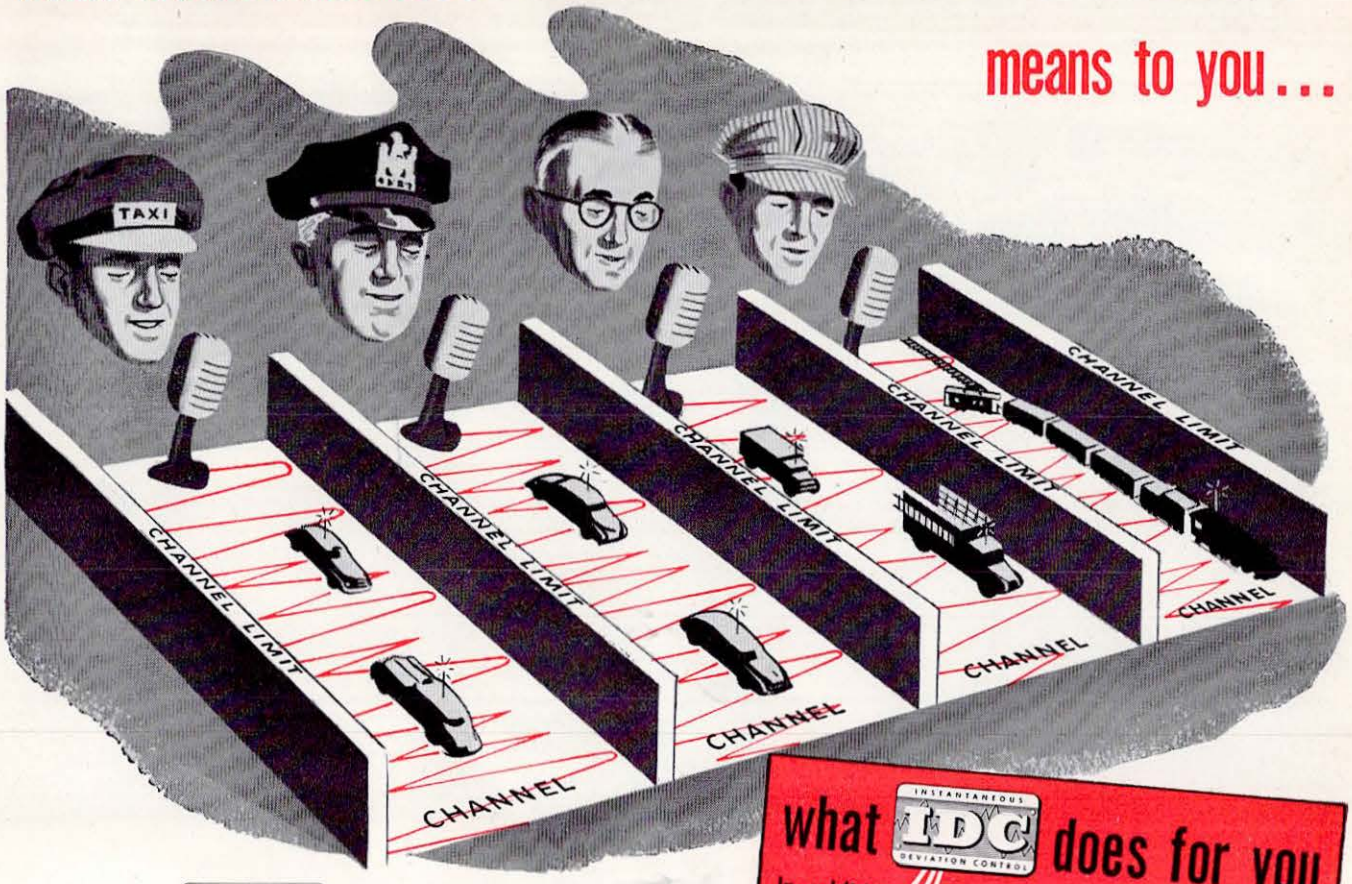
For full information on plywood's many railroad applications, write the Douglas Fir Plywood Association Office nearest you: Tacoma Building, Tacoma 2, Washington; Daily News Building, Chicago 6; Shoreham Building, Washington 5, D. C.; The 500 Fifth Avenue Bldg., New York City 18. Association engineers will be glad to work with you in solving specific problems with the modern "real wood of 1,000 uses."

Douglas Fir PLYWOOD

LARGE
LIGHT
STRONG

Real Wood **Panels**

what Motorola's "GOOD NEIGHBOR POLICY" means to you...



Motorola I.D.C. —Instantaneous Deviation Control

ANOTHER MILESTONE ALONG THE ROAD TOWARD ADJACENT CHANNEL OPERATIONS

Motorola Instantaneous Deviation control eliminates the severe nuisance interference that develops from channel "spill-over" by means of a new slope limiting device now an integral part of all currently manufactured Motorola transmitters. I.D.C., applied universally, will make close channel occupancy practicable. It is an *absolute solution*—not a conventional compressor amplifier or clipper-limiter compromise. Motorola's I.D.C. requires no "attack time," but controls carrier excursions instantly.

Motorola I.D.C. is available in kit form for all existing Motorola transmitters—mobile and base station. By installing I.D.C. in your transmitters—and urging your channel neighbors to reciprocate, you can enjoy new efficiency of communication.

what I.D.C. does for you

In addition to the "Golden Rule" benefits at left, I.D.C. gives you:

1. Eliminates the reduction of maximum range or received energy level normally caused by over-modulation.
2. New versatility in transmitter speech circuits. Optimum setting of modulation level will allow satisfactory modulation by female or deep-voiced male dispatchers.
3. New freedom from background noises. (Microphone can be held close to lips as I.D.C. tolerates wide ranges of volume.)

NEW PROOF OF MOTOROLA'S LEADERSHIP!

Years ahead again! Motorola I.D.C. today brings your equipment into compliance with FCC regulations drafted for effect on July 1, 1950.

MAIL THIS COUPON TODAY

Motorola Inc. Communications Div.
4545 Augusta Blvd., Chicago 51, Illinois
Dept. R.A.

Please send me additional information on Motorola I.D.C.

NAME_____

COMPANY_____

POSITION_____

ADDRESS_____

CITY_____ STATE_____

Motorola

FM 2-WAY RADIO

MOTOROLA: ***World leader in mobile 2-way radio communications***

Canadian Distributor: Rogers Majestic Ltd., Toronto - Montreal

The Empire State Express, one of the many fine trains of the New York Central System.

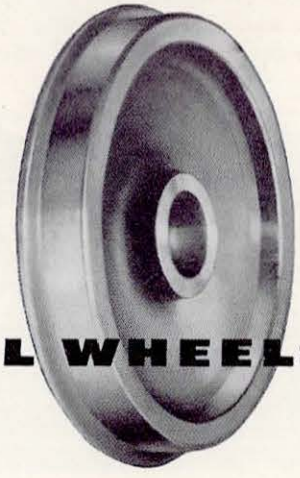
NEW YORK CENTRAL SYSTEM

Symbols of Service

A wheel is one of the most industrious parts of any car or locomotive. In most cases, the number of revolutions per wheel per year is an astronomical figure . . . Because of this, and because of the great responsibilities involved, wheels must be more than durable; more than strong; they must be thoroughly reliable. Bethlehem wrought-steel wheels have long met these requirements. You will find them in the service of the country's greatest railroads. They are a highly-responsible product—one that amply justifies the statement, "You cannot buy finer wheels anywhere."

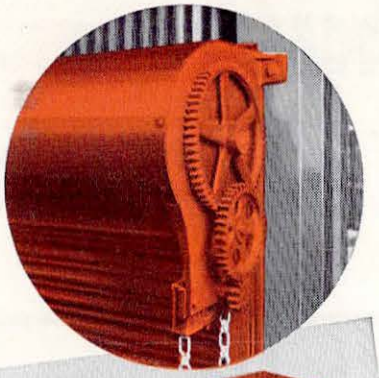
BETHLEHEM STEEL COMPANY, BETHLEHEM, PA.
On the Pacific Coast Bethlehem products are sold by
Bethlehem Pacific Coast Steel Corporation
Export Distributor: Bethlehem Steel Export Corporation

BETHLEHEM STEEL



Bethlehem **WROUGHT-STEEL WHEELS**

Rolling Steel DOORS



Manually • Mechanically • Power Operated

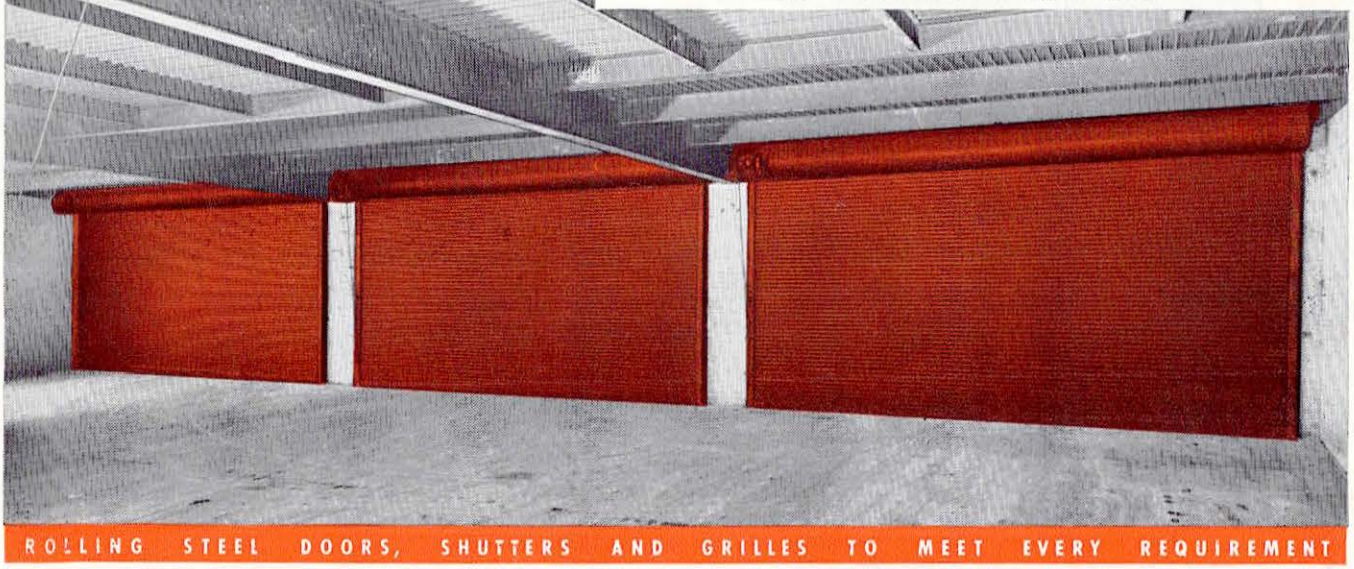
There's a Mahon Rolling Steel Door to meet your particular door requirement—whether it be manually, mechanically, or power operated, or an automatically closing Underwriters' Labeled Fire Door. Investigate the space saving advantages of these vertically acting doors, their permanence, and the greater protection they provide throughout a lifetime of trouble-free service. When you specify Mahon Rolling Steel Doors, you are assured the latest developments in doors of this type . . . you get more compact and more practical operators, with exclusive features which have proved very desirable in everyday operation. See Mahon Insert in Sweet's File for detailed information and complete specifications, or consult a Mahon representative.

THE R. C. MAHON COMPANY

Detroit 11, Michigan • Western Sales Division, Chicago 4, Illinois

Representatives in All Principal Cities

Manufacturers of Rolling Steel Doors, Shutters and Grilles, and Mahon Steel Deck for Roofs, Sidewalls, Partitions, Acoustical Ceilings, Permanent Floor Forms and Oversize Doors.

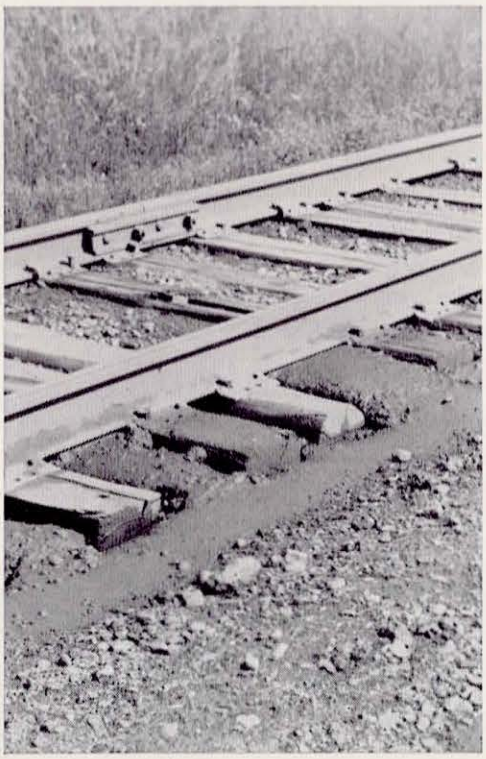


ROLLING STEEL DOORS, SHUTTERS AND GRILLES TO MEET EVERY REQUIREMENT

Three Mahon Power Operated Rolling Steel Doors, 26' x 12'-6", Recently Installed in the New Plant of Peninsular Metal Products Corp., Detroit, Michigan.

MAHON

You can't sue a subgrade for lack of support



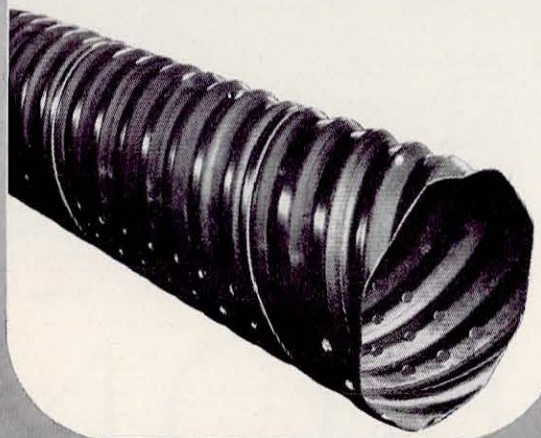
When water-filled subgrades are guilty of non-support they cost you plenty in excessive maintenance. Then the only way to keep roadbeds firm, smooth and stable is to drain the water out and keep it out. You can do this with ARMCO Perforated Pipe.

Efficient, economical subdrainage comes easy with ARMCO Pipe. Unskilled workmen quickly join long lengths with simple band couplers. There are fewer sections to lay—fewer joints to assemble. Installation goes fast and labor costs are low.

Your ARMCO Subdrainage System assures long, trouble-free service. ARMCO Pipe has proved strength to resist crushing or cracking under the impact and weight of heavy loads. There is no danger of disjointing or malalignment from shifting soils or severe frost action. Clogging is no problem. Scientifically placed holes collect unwanted water and drain it off along the pipe invert.

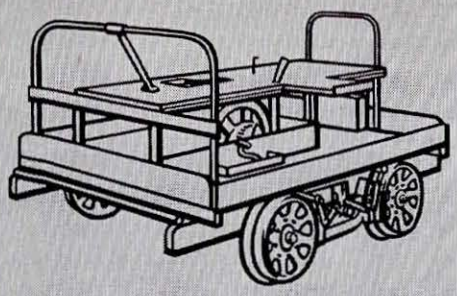
Use ARMCO Pipe for installing complete railway subdrainage systems, or for patching up trouble wherever it occurs. Then you can be sure of a firm, dry foundation under your roadbed. You'll save maintenance dollars and have a safe, smooth track with fewer "slow orders." Write for complete information. Armco Drainage & Metal Products, Inc., 1195 Curtis Street, Middletown, Ohio.

Export: The Armco International Corporation.

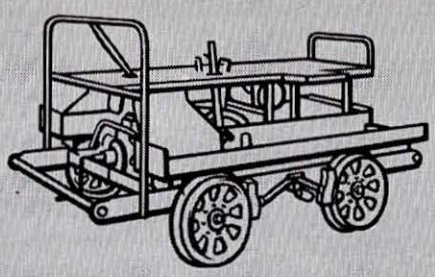


ARMCO

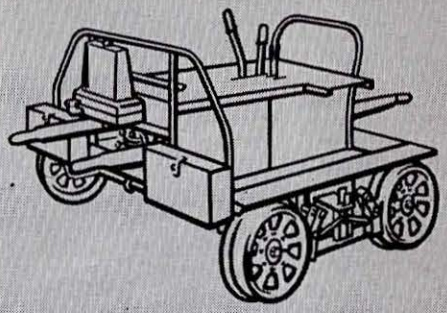
ARMCO PERFORATED PIPE



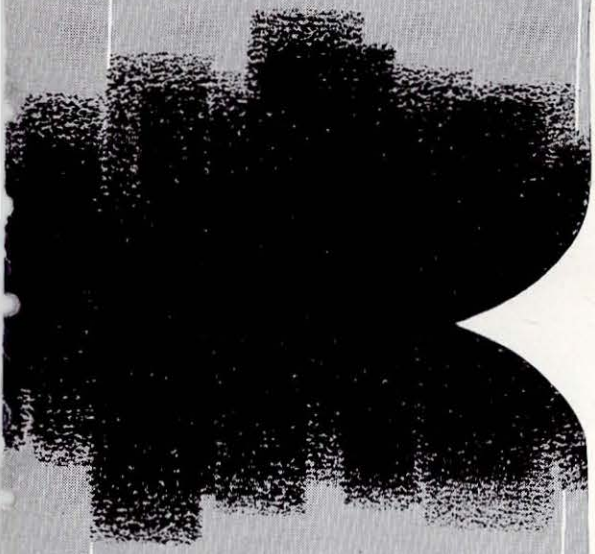
Model 44-B
Standard section car on many roads; powered to haul trailers with men, tools and/or ties.



Model 40-B
Heavy-duty section car; four speeds forward and reverse.



Model 57-D
One-man inspection car; light, fast, dependable.



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The better you'll like 'em...

Rail cars built the way railroad men want them . . . with ample power, more convenience and added comfort that make short rides a snap, long rides a pleasure . . . Fairbanks-Morse rail cars . . . first on the roads, *and still* first! Fairbanks, Morse & Co., Chicago 5, Ill.

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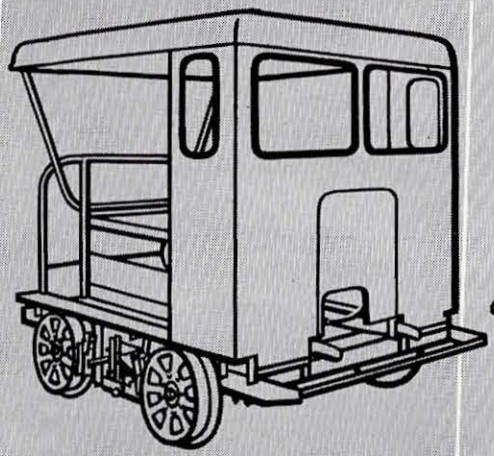
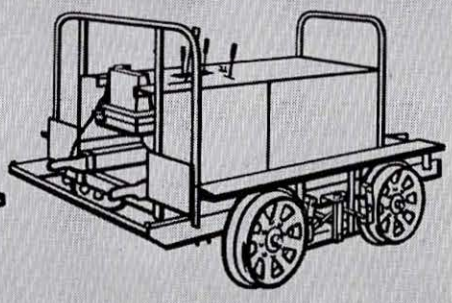
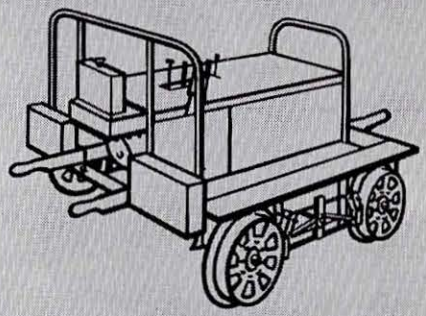
STOKERS • RAILROAD MOTOR CARS and STANDPIPES • FARM EQUIPMENT • MAGNETOS



Model 53
6-to-8 man standard section car showing comfort-adding metal cab.

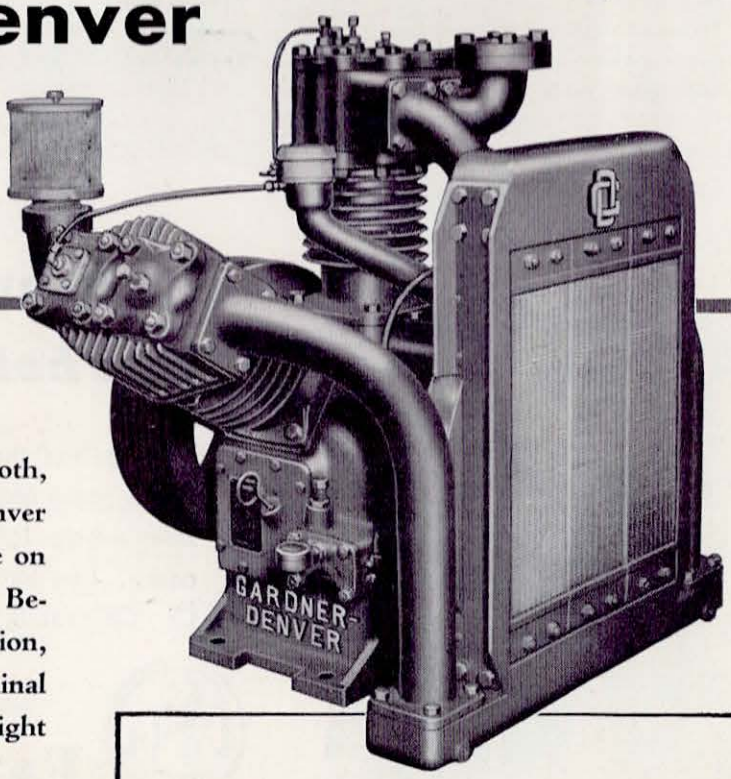


Model 58
Light section car; for 6 to 8 men.



Model 54-D
1-to-4 man inspection car; powerful brakes.

There's no vibration problem with a *Smooth Running* Gardner-Denver "WX"



Because it's carefully balanced for smooth, quiet operation, the Gardner-Denver "WX" Air Compressor is ideal for use on rolling stock — for air brake service. Because it requires practically no foundation, the "WX" is readily installed in terminal shops, or at signal blocks along the right of way.

The smooth running qualities of the "WX" are the result of quality engineering features such as: drop-forged alloy steel crankshaft, accurately counterbalanced and supported on two adjustable Timken tapered roller main bearings—lightweight automotive type pistons, with two small bore low pressure cylinders balanced against each high pressure cylinder for reduced inertia loads.

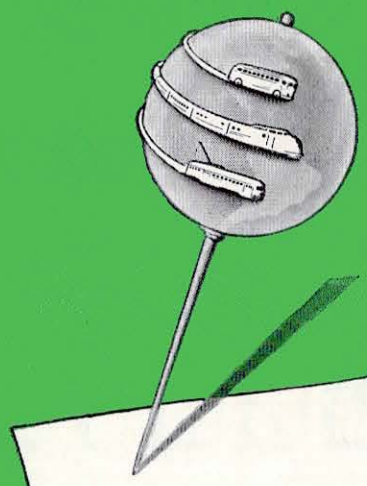
For complete information, write Gardner-Denver Company, Quincy, Illinois.

Gardner-Denver "WX" Two-Stage, Air-Cooled Compressor—built in capacities from 142 to 445 cubic feet displacement per minute.

Other "WX" advantages that assure long and reliable service:

- ★ Sustained high efficiency of two-stage compression
- ★ Quiet, efficient and durable plate type valves—"Air-Cushioned"
- ★ Extra deep cooling fins for rapid heat dispersion
- ★ Large radiator type, fan-cooled intercooler
- ★ Positive, force-feed pressure lubrication
- ★ Available for any type of drive

GARDNER-DENVER SINCE 1859



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TRANSPORTATION DIVISION

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THE EQUIPMENT *Experience built*

Where a water is required equivalent to that obtained through distillation, a wide range of industries have found the cost per gallon greatly reduced by the demineralization process.

The Graver demineralizer . . . the equipment experience built . . . delivers a water that contains but a negligible amount of dissolved solids. Where the sodium zeolite system eliminates hardness, the demineralizer actually produces an effluent equivalent to distilled water.

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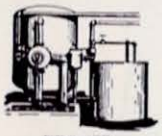
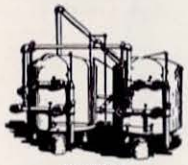
GRAVER



ZEOLITE SOFTENERS



FILTERS

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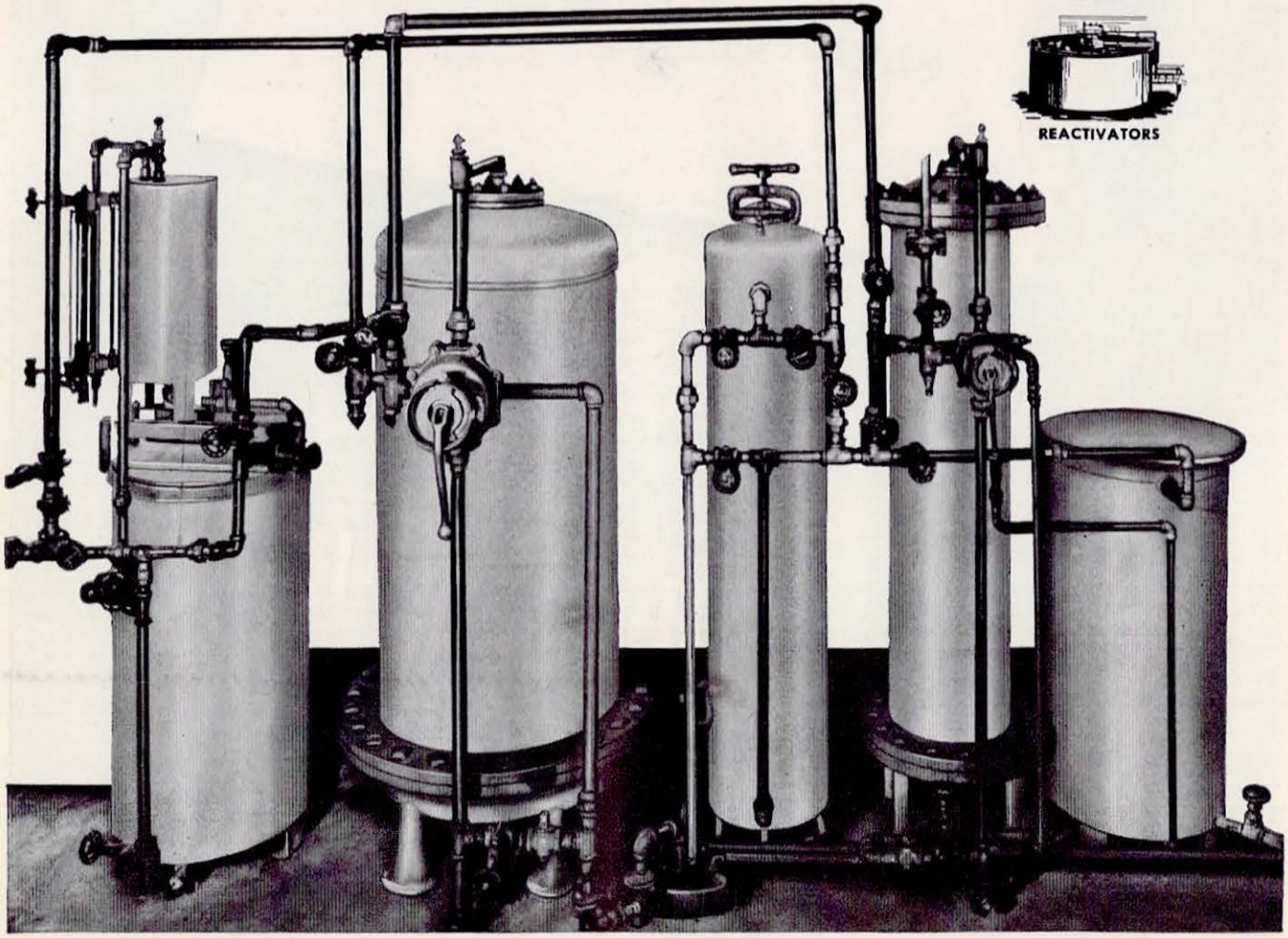
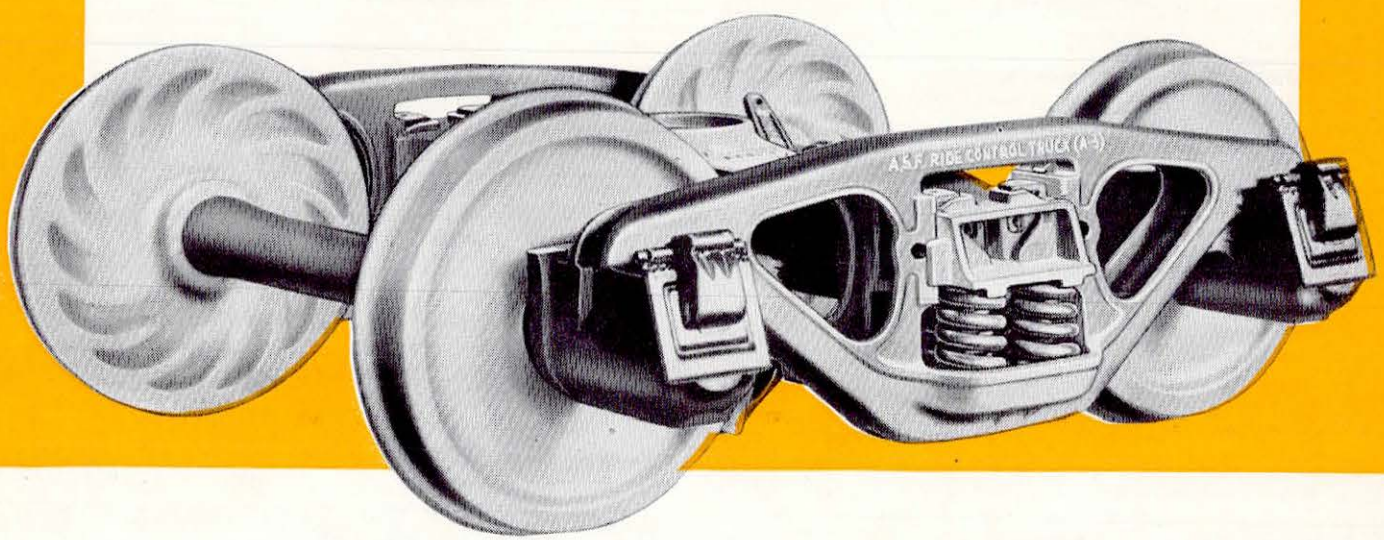


Protects Roadbed and Rolling Stock!



Last year, 29,964 car sets of A.S.F. Ride-Control Trucks were bought for *other than house cars.* Hoppers and covered hoppers accounted for 18,808 car sets; gondolas for 9030. Ore cars, tanks, and flats totaled 2126. America's railroads know from experience that smooth-riding Ride-Control Trucks protect cars *as well as* contents—*cut maintenance* on rolling stock and roadbed.

A-S-F *Ride-Control* TRUCK

CONSTANT FRICTION CONTROL

LONG SPRING TRAVEL

AMERICAN STEEL FOUNDRIES

MINT MARK OF ⬡ FINE CAST STEEL

Important Questions..

about iron and steel scrap for every top business man in every industry

Q. ***How* bad *is the shortage of scrap?***

A. Actually, we have enough scrap to get along, but too much of it is *light* scrap. What is badly needed today is more *heavy* scrap.

Q. ***Why more* heavy *scrap?***

A. Because heavy scrap will produce *more and better* steel in *less* time.

Q. ***Why is the heavy scrap shortage so* harmful *to our economy?***

A. Half of all the ingredients that are melted to make steel and castings consists of scrap iron and steel. The short supply of heavy scrap during the past year limited the production of steel mills and foundries. At the present record rate of production, there is still not nearly enough steel to meet the current and anticipated demands of our domestic economy, military requirements, and ERP. More heavy scrap will help bridge the gap.

Q. ***What's being* done *about it?***

A. A drive . . . and everybody is cooperating . . . is being started for industrial scrap, to (1) help step up present steel production, and (2) *create a visible reserve of heavy scrap in the event of national emergency.*

Q. **Why** ***is there a shortage of heavy scrap?***

A. Several reasons:

1. Very little of the 123,000,000 tons of steel and steel products exported during the war has come back as scrap.
2. With replacements scarce and expensive, much old equipment which would normally have been junked by now, is still in use.
3. A halt has been called on the junking of old vessels and military equipment which has until recently been a source of scrap.
4. The amount of heavy scrap produced in fabrication —the left-overs of machinery, etc.—is not enough to meet the demand for new steel and castings.

Q. ***How about the heavy scrap that must exist in huge quantities in* Germany *and* Japan?**

A. Some of this will be coming through, but not in good quantities until preparation and transportation facilities within those countries improve.

Q. ***Where can* additional *scrap be obtained from domestic sources?***

A. From industrial plants which have on hand large amounts of heavy scrap in the form of obsolete machinery, idle equipment—tools, dies, jigs, fixtures, etc.—and unnecessarily large repair parts inventories. Such scrap is the best possible type for the manufacture of quality steel.

Q. ***Isn't such material* ordinarily *turned in as scrap?***

A. Experience shows that plant "housekeeping" is not particularly good when plant production is high. People are too busy. However, if executives realized the critical situation, they would order the necessary steps to be taken.

Q. ***How can I help in this drive?***

A. Appoint one top official in your plant as a Salvage Director —with full authority to give orders and throw out everything that is not going to be needed. Have him consult with your trade association's Steel Scrap Drive Committee. Call in your local scrap dealer. (Incidentally, the prices paid for scrap are the highest ever.) Promote your scrap drive by meetings of department heads and through plant bulletin boards and newspapers.

Q. ***How do I benefit from moving scrap in addition to the money received for it?***

A. 1. You get the use of much-needed and expensive floor space now occupied by such equipment and material.
2. You eliminate the cost of keeping records and inventory.

Q. ***When does the scrap drive* start?**

A. Right this minute. The very next thing to do after reading this page, should be to start *your* plant's scrap drive!

Q. ***What is the goal of this drive?***

A. One million tons of *heavy* scrap . . . and "housecleaning" in your plant will help.

A PUBLIC SERVICE PROJECT · THE ADVERTISING COUNCIL

SCRAPPY SAYS:

Search your plant for HEAVY SCRAP ... Help make MORE STEEL!

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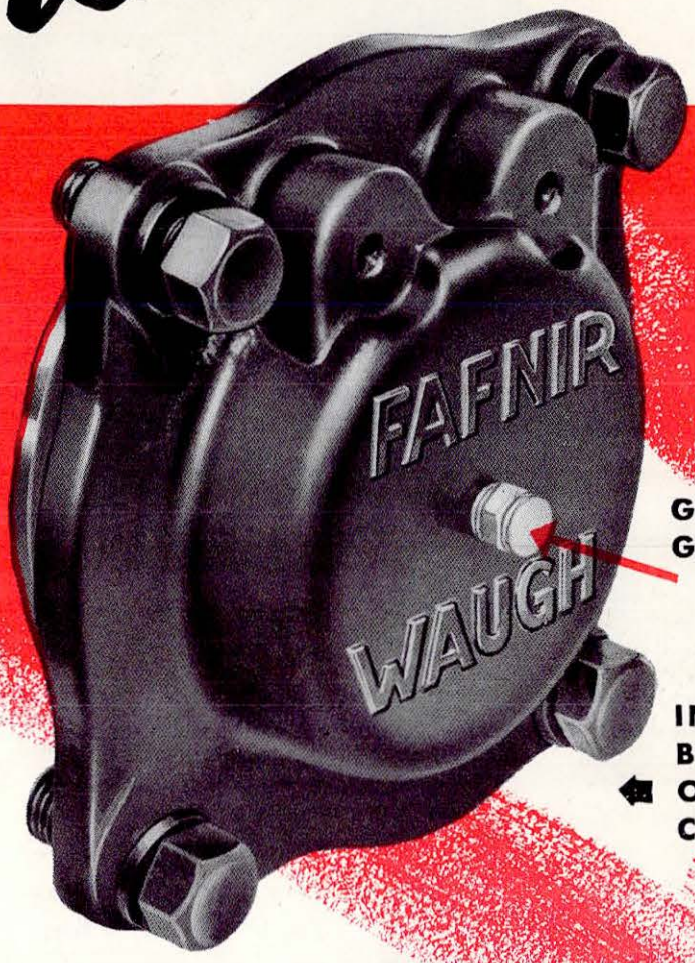
Why we say; "None better!"

REASON No. 2

GREASE LUBRICATION for Journal Bearings is *CLEAN, SAFE, LASTING, ECONOMICAL*



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INSPECTION BY REMOVAL OF FRONT COVER ONLY

IN JOURNAL BEARINGS, FAFNIR-WAUGH have pioneered grease lubrication.* Grease lubrication is *clean* lubrication. Grease, applied with a grease gun just as in your automobile, eliminates the likelihood of foreign matter getting into the bearings at time of lubrication and a special seal, shrunk on the axle, *keeps* the bearings clean. Tests show that this seal is the most effective of all lubricant seals in use today on anti-friction bearings.

With grease, one lubrication serves generally from wheel-turning to wheel-turning. It is safer, reducing the danger of hot-boxes due to negligence. When bearings are idle for an extended period grease does not drain off. Bearings are never exposed to corrosion. Recommended greases are fully efficient at —35° or +175° temperature. An important feature of grease lubrication is the dollar and cents saving in lubricants and lubrication labor.

For trouble free journal bearing operation, specify America's best engineered bearing, FAFNIR-WAUGH.

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WAUGH EQUIPMENT CO.

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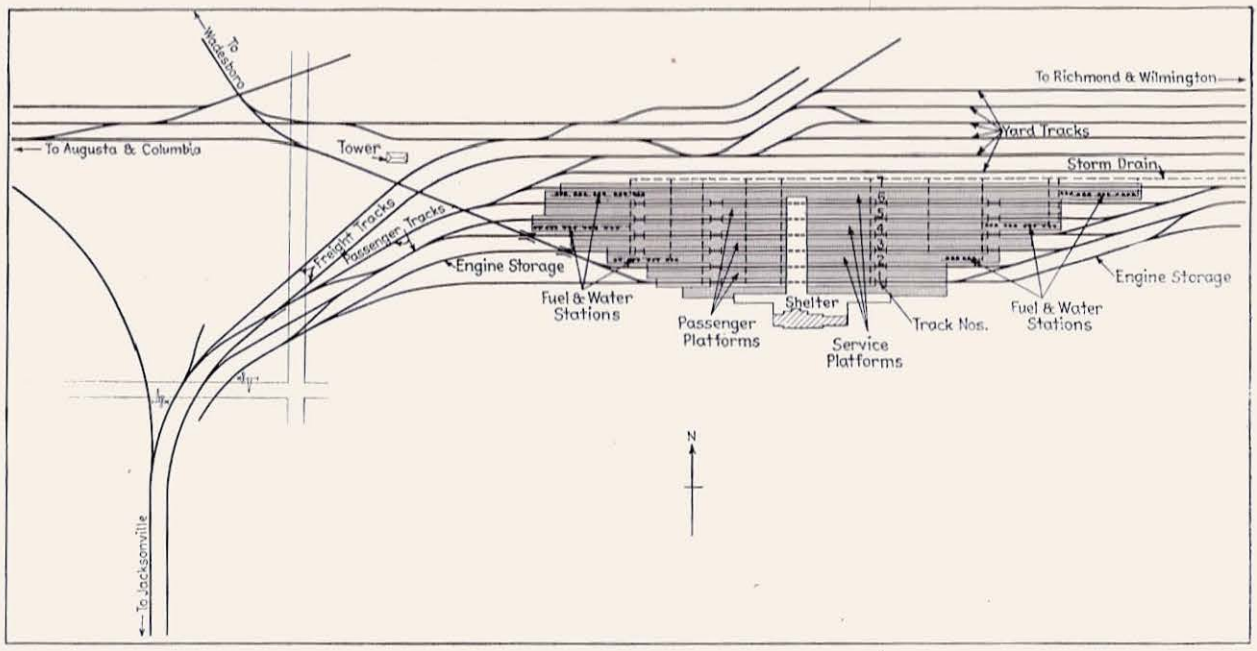
"None better... simplicity itself"



Sketch plan of the tracks, platforms and service facilities at Florence

ing facilities and sanitary coach-watering facilities were installed on the service platforms.

The initial step was the lengthening of the station tracks and the construction of the new ladder tracks. This was done under traffic but, by taking two tracks out of service at a time and returning them to service as soon as the work was completed, the change was accomplished without seriously interfering with train movements.

Signals and Interlocking

The second phase of the work was to install the new interlocking plant. This plant is of the all-relay electro-pneumatic type and includes 13 single switches, 2 double-slip crossing and 1 single-slip crossing, all of which are equipped with Type A-5 switch machines. Three two-arm high signals and 28 dwarf signals were included in this work. Compressed air for the switch movements is supplied from the mechanical department shops.

The interlocking machine is the Union Switch & Signal Co.'s type "C," with a panel 5 ft. long including miniature levers to control the switches and signals. The machine is located on the top floor of a new two-story fireproof brick tower, the first floor of which houses racks on which are mounted plug-in type relays, rectifiers, etc. All relays outside the tower are housed in sheet-steel cases equipped with plug-type couplers.

Supporting Slabs for Tracks

Other signal work included installation of electric locks on four hand-thrown switches; provision for remote control of a crossover on the line to Augusta, near the tower; and installation of electric crossing gates and flashing-light signals at a public crossing within the limits of the interlocking. The signals and interlocking machine were installed, under contract, by the Union Switch & Signal Co.

Each station track, between ladders, is supported on a concrete slab 10 ft. wide. In cross section the slabs appear as two sets of three steps, rising on opposite sides to a high point between the rails. The lowest levels on both sides, 1 ft. 3¼ in. wide, form the gutters, while the intermediate levels, 2 ft. 6 in. wide, support block ties which, in turn, support the rails. The top step, 2 ft. 5 in. wide, is located between the lines of block ties. The slabs are 19 in. thick at the center, a minimum of 12 in. thick under the ties, and 6 in. thick at the gutter level.

The slabs were poured in alternate sections, 9 ft. 9 in. long, using steel forms. High early-strength cement was used so that the forms could be removed daily and reset the next morning. Employing two separate forces in this operation, production averaged 20 such sections each day. The total length of slabs is 10,133 ft.

The station tracks are laid with 100-lb. relay rail on double-shoulder 7-in. by 12-in. tie plates. The block ties are 9 in. wide by 7 in. high by 2 ft. 6 in. long. Every sixth tie is full length and is laid in a groove through the high center portion of the slab. Every third block tie is bolted to the slab with 1-in. bolts placed when the concrete was poured. All other ties, including the long ties, are held in position by cut spikes placed point-up in the concrete at the time of pouring so as to protrude about ¾ in. above the slab. The weight of the first train to pass over the track seated the ties on the spikes, holding them in place. Rail anchors were installed to bear against each side of the block ties that are bolted to the slabs.

Why we say; "None better!"

REASON No. 2

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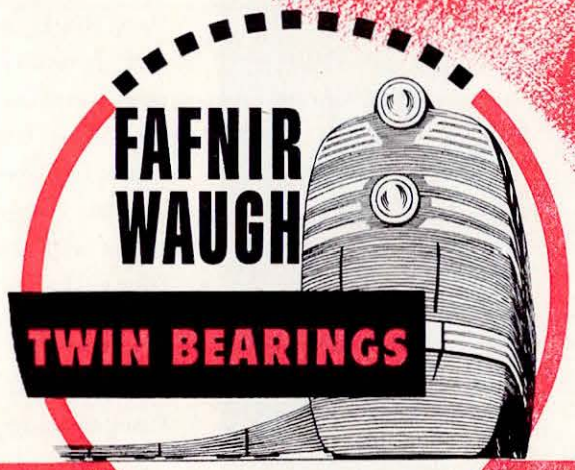

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And the Hyatt Roller Bearing Journal Boxes which are standard equipment in these locomotives are equally dependable. Many of the original installations with over three million miles of profitable operation are proof of this.

Hyatt Bearings Division, General Motors Corporation, Harrison, New Jersey.

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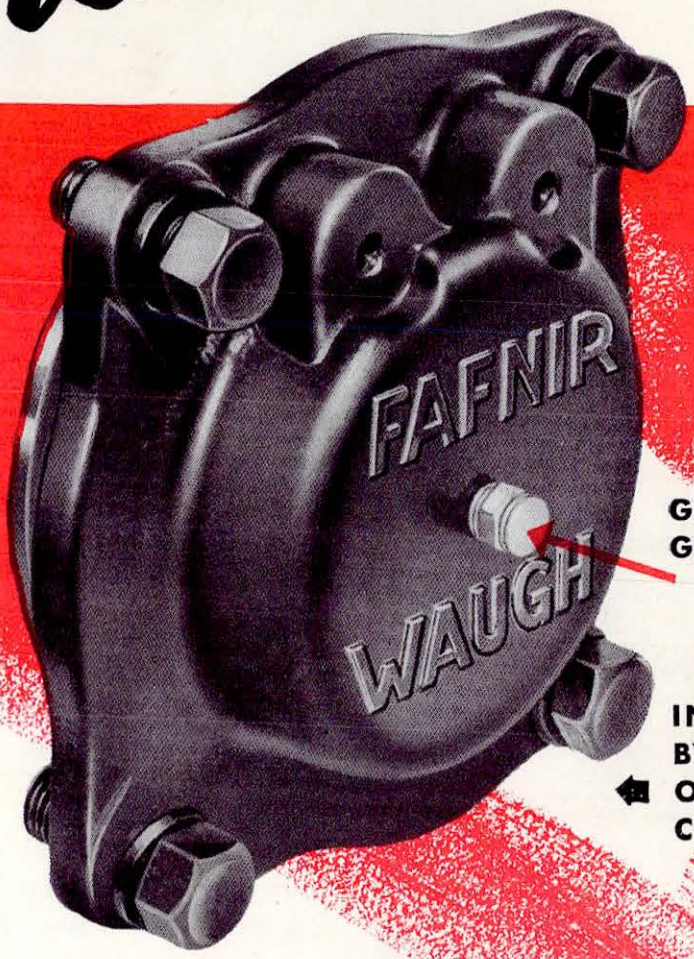

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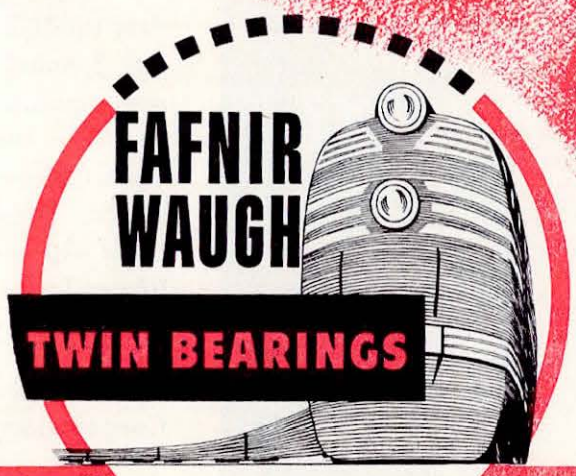

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Vol. 126, No. 8 February 19, 1949

RAILWAY AGE

With which are incorporated the Railway Review, the Railway Gazette, and the Railway-Age Gazette. Name Registered in U. S. Patent Office.

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WEEK AT A GLANCE

SUNSHADES OR UMBRELLAS? "Too many people look upon the railroads as an unbrella for a rainy day. But the railroads can't continue on a rainy-day basis. They must have some of the sunshade business, too." So, in effect, said Herbert L. Baldwin, assistant vice-president of the New York, New Haven & Hartford, at Portland, Me., in a recent speech which is reported in detail in our News section. Elsewhere in the news is a report of a general speed-up of the New Haven's New York-Boston passenger service, which amply supports another point made in Mr. Baldwin's speech—that railroad managements are constantly striving to provide better and better service. As added evidence on that score, the week's news also includes details of new equipment purchases authorized by the Chicago & North Western, suburban service improvements on the Burlington, and extensive track betterments on the Pennsylvania's Panhandle division.

STATION IMPROVEMENT BRINGS GOOD RESULTS: An illustrated article, beginning on page 34, describes an extensive improvement program recently completed by the Atlantic Coast Line at its passenger station at Florence, S. C. The project has resulted in greater safety and convenience for passengers, increased efficiency in the servicing of passenger trains and reduced maintenance costs.

NEW PRESIDENT FOR SIMMONS-BOARDMAN: James G. Lyne, co-editor of *Railway Age*, has just been elected to succeed S. O. Dunn as president of the Simmons-Boardman Publishing Corporation, publishers of *Railway Age* and other transportation papers. The reasons for Mr. Lyne's election to that post are outlined by Mr. Dunn on page 50, where Mr. Lyne's business career is also reviewed.

ANOTHER INVESTIGATION? A news story from Washington reports a proposed investigation of "all domestic land and water transportation." Other developments of the week in Congress, the Supreme Court, and the Interstate Commerce Commission are reported in additional stories. Confirmation of Col. J. Monroe Johnson for another term on the I.C.C. is of special interest.

"LIQUIDATING THE MIDDLE CLASS": *Railway Age's* January 1 editorial on that subject has been widely quoted—and generally approved. This week, therefore, we follow it up with another, which points out that such liquidation can be prevented, as things now stand, *only* by *coordinated* and *united* opposition by the *entire* middle class to *every* socialistic policy.

WHO SHOULD PAY FOR HIGHWAYS? By any consideration of logic or common sense, the cost of building and maintaining highways should be assessed primarily against those who use them—particularly when that use is for purposes of private financial gain. That viewpoint was convincingly presented to the National Tax Association last fall by Earl R. Feldman, of the Association of American Railroads; his paper on the subject is reprinted on pages 38-40. Mr. Feldman's ideas are the result of practical highway engineering experience, fortified by years of careful study of highway tax problems.

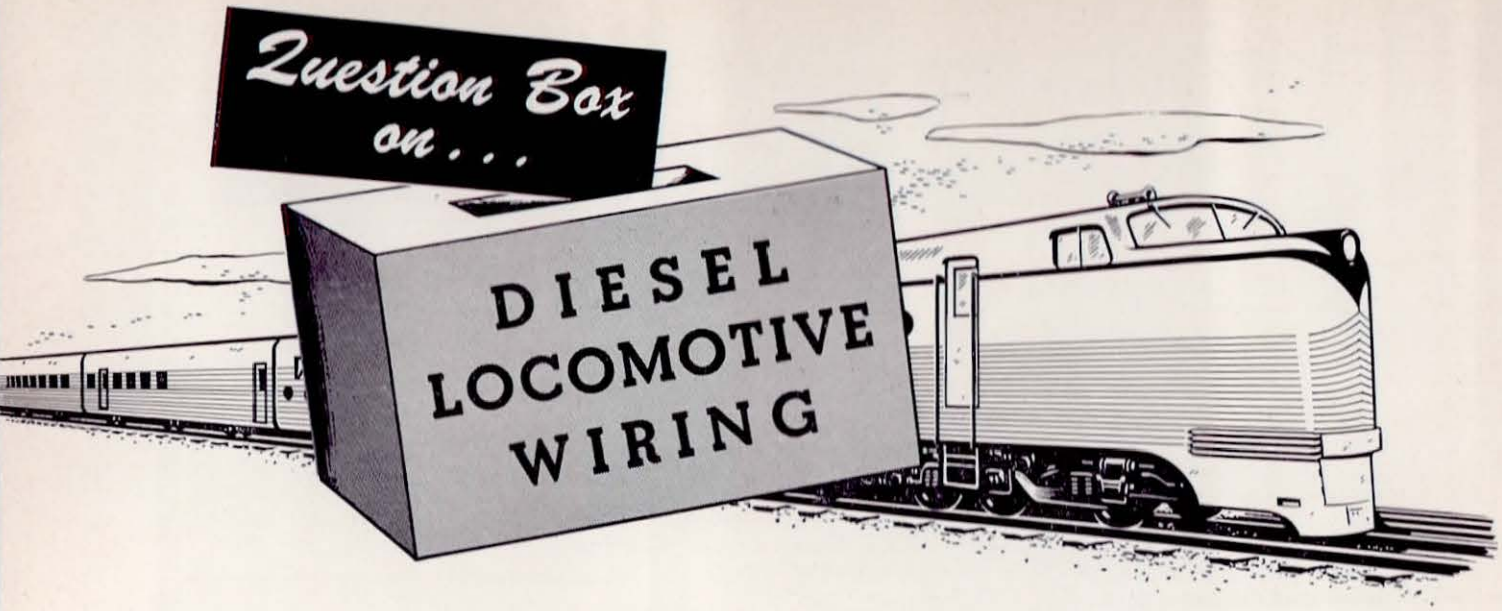
A BREAK FOR COMMUTERS: Beginning its second century wth the same high standards of service that marked its first, the Chicago, Burlington & Quincy has announced an extensive program of improvements in its Chicago suburban services. The program includes modernization of 65 existing commuter cars, purchase of 30 new cars, and eventual Dieselization of most of its suburban trains. The reconditioning of the present cars is described in an illustrated feature article beginning on page 46. Other aspects of the program are reported at two places in our News pages, which also cover the road's charter centennial celebration at Aurora, Ill., on February 12.

C.T.C. ON THE BIG SANDY: Centralized traffic control continues to demonstrate its ability to increase track capacity, speed up train movement and promote operating safety. One of the latest installations of this type is on the Chesapeake & Ohio's Big Sandy subdivision, a 128-mi. line in eastern Kentucky with heavy coal traffic. The installation is described in an illustrated article which starts on page 41.

GREAT NORTHERN CABOOSES: Streamlined passenger cars are, by now, pretty common on American railroads, but streamlined caboose interiors are still unusual enough so that those recently put in service on the Great Northern deserve special mention. They get it on page 45.

EASIER—AND CHEAPER: Passenger timetables for public use are, all too often, one of the many "taken for granted" features of railroad service. So when a railroad, by consistent attention to detail, makes its timetables more attractive to look at, easier for the occasional traveler to understand, and, at the same time, relatively cheaper to print, its accomplishment deserves special mention. That is why we publish, on page 48, an article by John S. Gallagher, Jr., traffic analyst for the New York, New Haven, & Hartford, telling how that company has achieved all of those results.

BRITISH ROADS TO USE T-SECTION RAIL: One of the week's interesting developments is the announcement that T-section rail, similar to that used in this country, will eventually replace the "bull-head" section which has long been the British standard. For details, see our Overseas News section.



Q. Where on a diesel electric locomotive is the choice of correct wiring important?

A. In wires to be used in generator leads and motor leads, in power jumpers and control jumpers, in lighting systems, in lines to headlights, on controllers and as cab signal wiring.

Q. What three properties are in particular demand in wires and cables for these services?

A. **OIL RESISTANCE**
NON-FLAMMABILITY
PROTECTION FROM MECHANICAL DAMAGE

Q. What cable possesses these to an unusually high degree?

A. **OKONITE-OKOPRENE CABLE**

Q. What are the two main components of this cable?

A. OKONITE insulation is the original 30% (by weight) mineral base rubber insulation made with wild up-river fine Para rubber. OKOPRENE, for coverings and sheaths, is an Okonite-developed neoprene compound.

Q. What other characteristics has Okonite insulation?

A. An exceptionally long service life. Ability to retain its high tensile strength and elasticity. High electrical values.

Q. How does this cable perform when oil is sprayed out within the locomotive or dropped from the diesel itself?

A. The Okoprene coverings, when exposed to the solvent action of petroleum products, protect the wire insulation from swelling or softening. Tough, wear-resistant Okoprene sheaths retain their full mechanical strength after such exposure.

Q. Do Okoprene coverings support combustion?

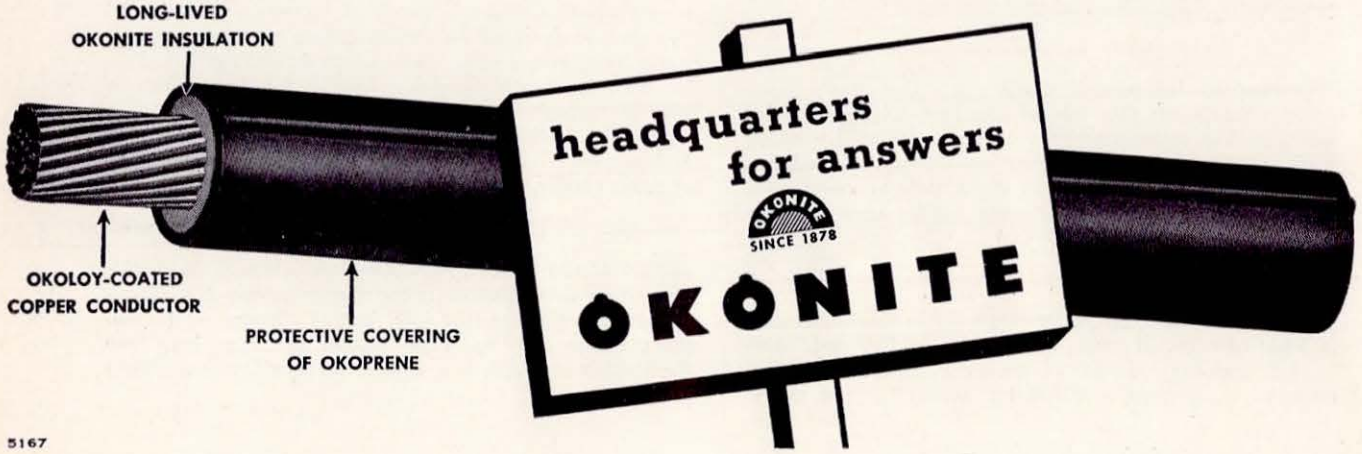
A. No. When tested in accordance with flame tests of Underwriters' Laboratories, Inc., Okoprene coverings meet all requirements. With Okoprene-protected cables, fire cannot be communicated along the cables.

Q. What other characteristics have Okoprene coverings?

A. When subjected to moisture, they will not rot or deteriorate. They are chemical resistant. They have no saturating compounds to erode or flake off. They give added electrical protection, as Okoprene is itself an insulating material.

Q. Where can I learn more about Okonite cables for diesel electric locomotive service or other railroad communication, lighting, signaling or roundhouse applications?

A. By discussing your needs with an Okonite representative. You'll find that he speaks the railroad man's language. You can get in touch with him by writing to The Okonite Company, Passaic, N. J.



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HOW STOP LIQUIDATION OF THE MIDDLE CLASS?

The editorial entitled "Liquidating the Middle Class" which appeared in *Railway Age* of January 1 has been quoted in full or virtually in full in newspapers throughout the United States and has caused much comment, some of it critical, but a large preponderance of it favorable.* Meantime, numerous bills illustrating the trend toward socialistic policies and intended ostensibly to benefit the "proletariat," but plainly tending toward liquidation of the "bourgeois," have been introduced in Congress, all with the backing of the labor union-controlled Truman administration. These efforts to exploit able and successful people ostensibly for the benefit of those with strong backs and weak minds are not new. Kipling traced them back some millions of years in a poem in which he said:

> In the carboniferous epoch they promised abundance for all
> By robbing selected Peter to pay for collective Paul;
> But though they had plenty of money there was nothing their money could buy;
> And the Gods of the copy-book headings said:
> 'If you don't work you die.'

What is new about these efforts to "rob selected Peter to pay for collective Paul" is their prevalence throughout the world in the guises, among others, of communism, socialism and New Dealism, and the lack of resistance by bourgeois Peter to being robbed.

Must Offer Organized Opposition

Some readers of the editorial in our issue of January 1 have raised questions regarding whether the liquidation of the middle class can be stopped, and, if so, how. It *can* be stopped. Whether it *will* be stopped will be determined entirely by whether and how the middle class decides to resist it.

To save itself, the middle class will have to "fight the devil with his own weapons." The middle class is being destroyed by the *organized action* of its enemies. It can save itself only by offering its enemies *organized opposition*.

The driving force of those promoting socialistic policies is furnished principally by the gigantic monopolies into which manual workers are organized and the union leaders who exercise despotic control over the policies of these gigantic monopolies. The labor union monopolies and their leaders use their monopoly powers to apply coercion regarding wages and working conditions to business, which is owned principally by the middle class. They engage actively in politics in support

*Newspapers which have quoted this editorial in full or virtually in full include the following: Greenwich (Conn.) Time; Jacksonville (Fla.) Journal; Waterville (Me.) Sentinel; Worcester (Mass.) Telegram; Marshfield (Mo.) Mail; Miles City (Mont.) Star; Bridgeton (N.J.) News; Saratoga Springs (N.Y.) Saratogian; Tiffin (Ohio) Advertiser-Tribune; Somerset (Pa.) American; Chattanooga (Tenn.) News-Free Press; St. Johnsbury (Vt.) Caledonian Record and Point Pleasant (W.Va.) Register.

of socialistic policies inimical to the middle class and candidates who support these policies, and virtually force members of the labor unions to support these candidates and policies. Between political campaigns they constantly carry on propaganda on the radio and in the press, especially in publications issued by the labor unions, exaggerating and attacking the profits of business and the incomes of business leaders, minimizing the incomes of the working class, and promoting socialistic policies to remedy the conditions which they allege to exist.

What, meantime, is the middle class doing? There are numerous organizations which represent business and the professions, and hence the middle class. These include the Association of American Railroads, the Railway Business Association, the National Association of Manufacturers, the National Association of Home Builders, the Chamber of Commerce of the United States, the American Medical Association, the American Farm Bureau Federation and so on *ad infinitum*. They are spending large amounts of money on propaganda intended to "educate" the people, especially the working class, regarding the advantages of capitalism and the evils of socialism and communism.

Coordination of Activities Needed

But day after day, despite all of these organizations and their propaganda activities, the threat of socialistic policies to private enterprise and the middle class becomes more dangerous. Why? Because there is no coordination of these organizations. Because they try to protect the special interests of some parts of the middle class and often attack the special interests of other parts of the middle class. Because there is no powerful organization trying to protect *all* the interests of the middle class. The manual workers through their labor unions have got complete control of the Democratic party in the north—i.e., of the part of the Democratic party that is now in control of the federal government—and are using it in behalf of establishment of a socialist planned economy which would destroy the political and economic system of the United States, complete the liquidation of the middle class and reduce both the middle class and the manual working class to vassals of a government bureaucracy. The middle class has available, in the Republican party, an organization already in existence and under its control which it could use to protect *all* its interests. A vast preponderance of all the twenty-two million who voted for Dewey, virtually all who voted the "Dixiecrat" ticket and millions who did not vote at all because disgusted with Dewey's campaign are middle class conservative anti-socialists.

The methods which the middle class should adopt to arrest its own destruction seem obvious. First, the activities of all existing organizations trying to protect special interests by opposing specific socialistic policies—such as, for example, policies of socializing transportation, or the building industry, or the agricultural industry, or the medical profession—should be so coordinated that they will present *united* opposition to *every* socialistic policy. Second, the middle class should use the control of the Republican party which it already actually has to compel that party and its leaders to stand up and fight against socialism and for Americanism —i.e., freedom of the individual, true democracy, efficiency and economy in government, and conduct of the national economy by private enterprise.

PRODUCTION TOOLS AND METHODS

Readers of this paper, even those not in the mechanical department, have an interest, whether generally realized or not, in new machine tools and shop procedures—not in the tools and procedures themselves, but in the part they can play in reducing the cost of the product the railroads sell—ton-miles and passenger-miles. These tools and procedures can lower the cost of the railroads' product just as surely as does the more obvious and perhaps more glamorous Diesel-electric locomotive.

In a variety of ways and in hundreds of places new tools and procedures can be put to work to increase the productivity of railroad workmen. Flame-cutting equipment is shaping the steel plates for rebuilding cars eight times faster than power shears, and with less manpower. Modern boring mills, wheel lathes, hydraulic presses and handling devices—combined with suitable shop procedures — are turning out the wheels and axles faster, more accurately, and at half the cost incurred with the old tools and procedures. Such items as material-handling equipment, an impact wrench, or any one of many other mechanical devices that are being improved constantly add to the sum total of available savings. Individually, their contribution to more efficient railroad operation may be small but, collectively, better tools and methods can mean the difference between operating at a profit or at a loss.

Alertness to discover and apply new mechanical devices and techniques to secure greater efficiency of production has been the outstanding characteristic of America's industrial genius—on the railroads as much as anywhere else. This extraordinary American interest in the application of better tools and better methods has been in a large measure responsible for this country's

ability to turn out more work at less cost and with less effort than any other nation. There are still many opportunities for continued progress in this direction on the railroads, and particularly in railroad shops.

A SUCCESSFUL SUGGESTION SYSTEM

The record of what the Illinois Central is achieving with its Employee Suggestion System, now beginning its eleventh year, scarcely supports the skepticism regarding the merits of such systems which still prevails in many places. Despite the persistence of such doubts, these systems are continuing to expand, not only on the railroads but in the manufacturing industry as well.

On the Illinois Central, the objective of the plan is to give tangible recognition to the effort of employees who help the company to improve its product. During the first ten years of operation, completed with the close of 1948, more than 11,500 individual employees were recognized for proposing useful suggestions. These winners submitted the greater part of more than 265,000 proposals and were rewarded for more than 45,500 ideas that were adopted.

Cash awards exceeded $574,000, or approximately $12.50 for each idea accepted. Awards for individual suggestions have attained much higher averages—a car shop millwright, for example, having earned an average award of more than $174 for each of his 17 adopted suggestions, or a grand total of $2,960. The top award winner to date is a yard storekeeper, whose awards for 266 adopted suggestions total $2,325.

Contrary to the prediction of some adverse critics, interest in the plan has not declined as the years have passed—instead the number of participants, suggestions and adoptions has increased. Total awards in 1948, while lower than during the war years, were much higher than during any of the first three years the system was in operation. The accompanying table tells the story.

Suggestions Received and Adopted — Ten Years, 1939-1948

	Number of Employees	Receipts	Adoptions	Per Cent	Awards
1st Year	30,700	16,092	1,147	7.1	$ 10,565
2nd Year	31,600	18,014	2,123	11.8	21,129
3rd Year	35,100	18,820	2,445	13.0	27,460
4th Year	41,700	21,545	3,166	14.7	35,120
5th Year	42,200	24,578	4,620	18.8	49,840
6th Year	42,500	29,039	6,276	21.6	74,000
7th Year	40,000	45,474	9,177	20.2	122,730
8th Year	39,500	36,602	6,797	18.6	90,825
9th Year	40,600	34,007	5,908	17.4	80,770
10th Year	40,500	23,037	4,107	17.8	62,380
TOTAL	*38,400	267,208	45,746	*17.1	$574,799

*Average

MOVE OVER, MR. GALLUP!

A couple of weeks ago Mr. Truman made a little speech extolling the virtues (as he sees them) of what frequently is called a "planned economy." The general idea seems to be that if all commerce and industry are conducted according to "plans"—especially plans concocted in the Washington bureaus—we will have practically perpetual prosperity. Lifetime security for everybody, full employment with long vacations, high wages, easy money, no responsibilities—all the blessings of a worry-free Utopia, in other words, are denied us only because some pig-headed people prefer to struggle along by the rules of old-fashioned economics rather than yield to the seductions of the new formulas.

The railroads—and railroad security-holders—know something about how "planning" works.

Take the Cotton Belt, for example.

Back in the Thirties, along with a lot of other railroads and other businesses, the Cotton Belt couldn't make ends meet. According to the prescribed procedure for such situations, the Interstate Commerce Commission eventually "planned" a reorganization of this railroad's capital structure. The company's stock, the planners said, was of "no value."

It takes time to complete these section 77 reorganizations—particularly when obstinate people object to the plans and drag matters through the courts. Meanwhile an unplanned war was going on, and before the planners could get their plan in operation the Cotton Belt had accumulated enough cash to pay all back interest and to take care of all matured obligations. The need for reorganization had evaporated.

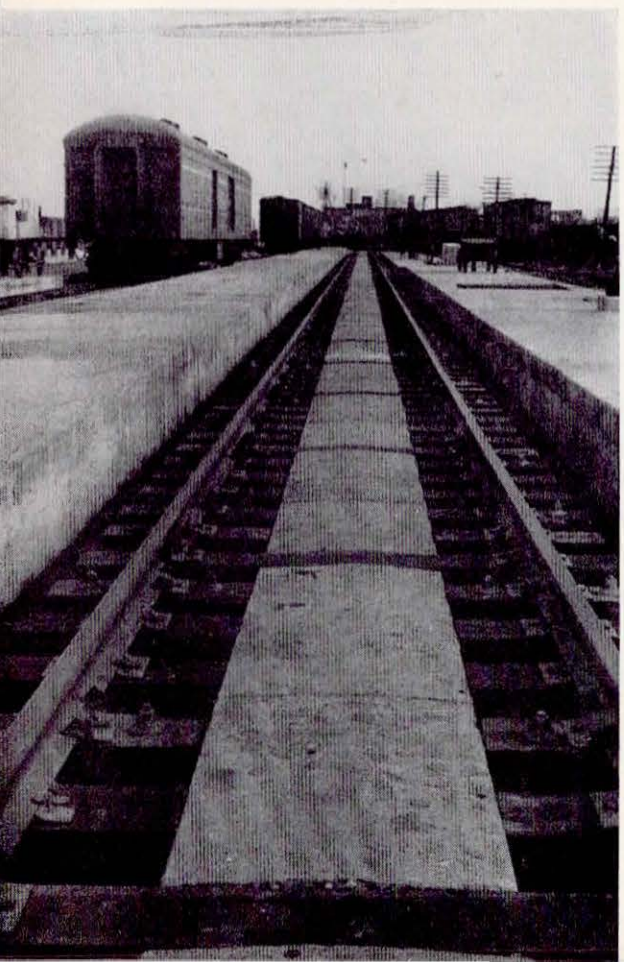
In 1948, with no war business, this road's common stock that the planners said had no value earned, according to preliminary reports, $54.51 a share. The election pollsters aren't the poorest prognosticators on record, after all.

While we do what we can for the preservation of free enterprise abroad, we want to be vigilant also that we do not weaken its bulwarks here at home. These are the days when we should take stock of all movements tending toward undue governmental participation in the transportation field and, of course, hold within reasonable bounds the tendency toward subsidizing carriers competing with the railroads. That could go for relaxation of highway assessments upon highway carriers, as well as for the furtherance, with tax money, of airlines and barge lines and such vast national projects as the proposed St. Lawrence Seaway. The preservation of free enterprise means a lot to our American railroads—and to our railroad men and women. And this is the moment for expressions of opinion to that effect, when they count. ——*W. A. Johnston, president, Illinois Central*

Looking east over the track and station area of the Atlantic Coast Line's passenger station at Florence, S. C., prior to the completion of the project. Notice the train servicing facilities on the alternate platforms

PLATFORM LAYOUT SEPARATES PASSENGERS AND TRAIN SERVICING

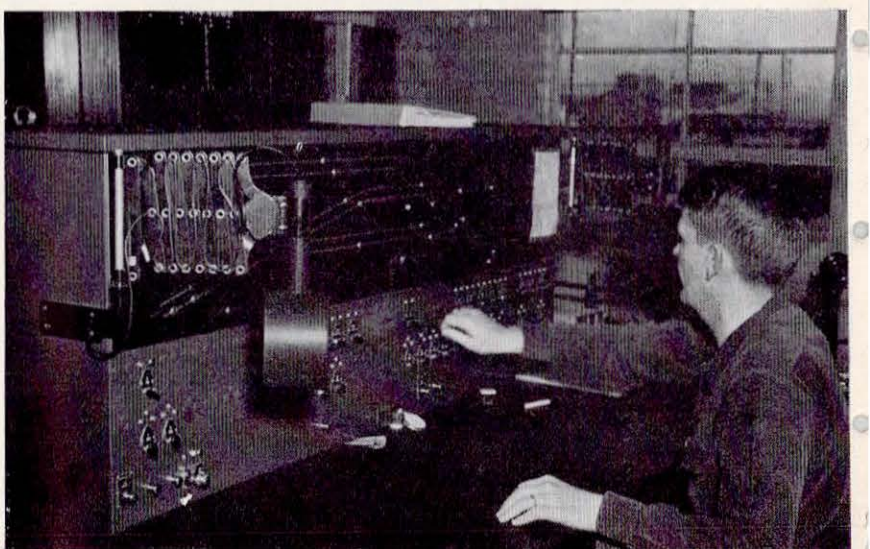
Improvements on Atlantic Coast Line at Florence, S. C., permit complete servicing of 20-car trains without annoyance to patrons, and afford other operating advantages



Left—Details of the track construction in the station area

Facing page—There are facilities for supplying fuel and water to Diesel locomotives at each end of the three service platforms. Byers wrought iron pipe was used for the refueling facilities

Below—Train movements at the west end of the station-track layout are controlled by this interlocking machine



The Atlantic Coast Line has recently completed an extensive improvement program at its passenger station at Florence, S. C., which has resulted in substantially increased efficiency in servicing passenger trains, as well as in improved station-area drainage, reduced maintenance and greater convenience and safety for patrons. The project was confined entirely to the track and platform area, but included new tracks, new concrete platforms, a new interlocking to eliminate switch tenders at one end of the station layout, the provision of modern fueling and watering facilities for Diesel locomotives, and the installation of pollution-proof hydrants for watering coaches. A feature of the project was the use of concrete slabs of unusual design for supporting all of the station tracks.

Florence is on the double-track main line of the A. C. L., 298 mi. south of Richmond, Va., and 383 mi. north of Jacksonville, Fla. All equipment in Coast Line passenger trains moving between Florida and northern points is serviced at Florence, which is also a point for changing crews. Secondary lines extend from Florence to Wilmington, N. C., 110 mi., to Augusta, Ga., 167 mi., and to Columbia, S. C., 81 mi., making this station also an important transfer point for passengers, mail and express.

The Layout at Florence

The former passenger yard at Florence, constructed many years ago, included seven tracks, numbered from south to north. The body tracks provided standing room for steam-powered trains of 12 to 14 cars, while most of the trains using the station today have 20 cars and are hauled by Diesel-electric locomotives. The ladder track at each end was laid out for No. 6 frogs, and long trains using the station frequently fouled one or both ladders, interfering with other movements. The drainage system was likewise inadequate and was expensive and burdensome to maintain. All switches were hand-thrown and switch tenders were required to protect movements at both ends of the yard.

The station building is located centrally south of the station tracks, which extend in an east-west direction. Approaching from the south, the mainline tracks negotiate a wide curve to the right and enter the station area from the west. These tracks continue directly east from the station for several miles before again swinging to the north.

A system of turnouts and crossovers permits freight trains to by-pass the station proper, moving on freight tracks to the north of the station tracks. These trains rejoin the main line at an interlocking about 1.5 mi. east of the station area.

The secondary line from Florence to Wilmington follows the main track east from the station for some distance, while those lines leading to Augusta and Columbia extend directly west. A branch line, leading to Wadesboro, N. C., 63 mi., moves out of the west end of the station and swings to the northwest, crossing over the main-line tracks from the south and over the Columbia-Augusta tracks at grade.

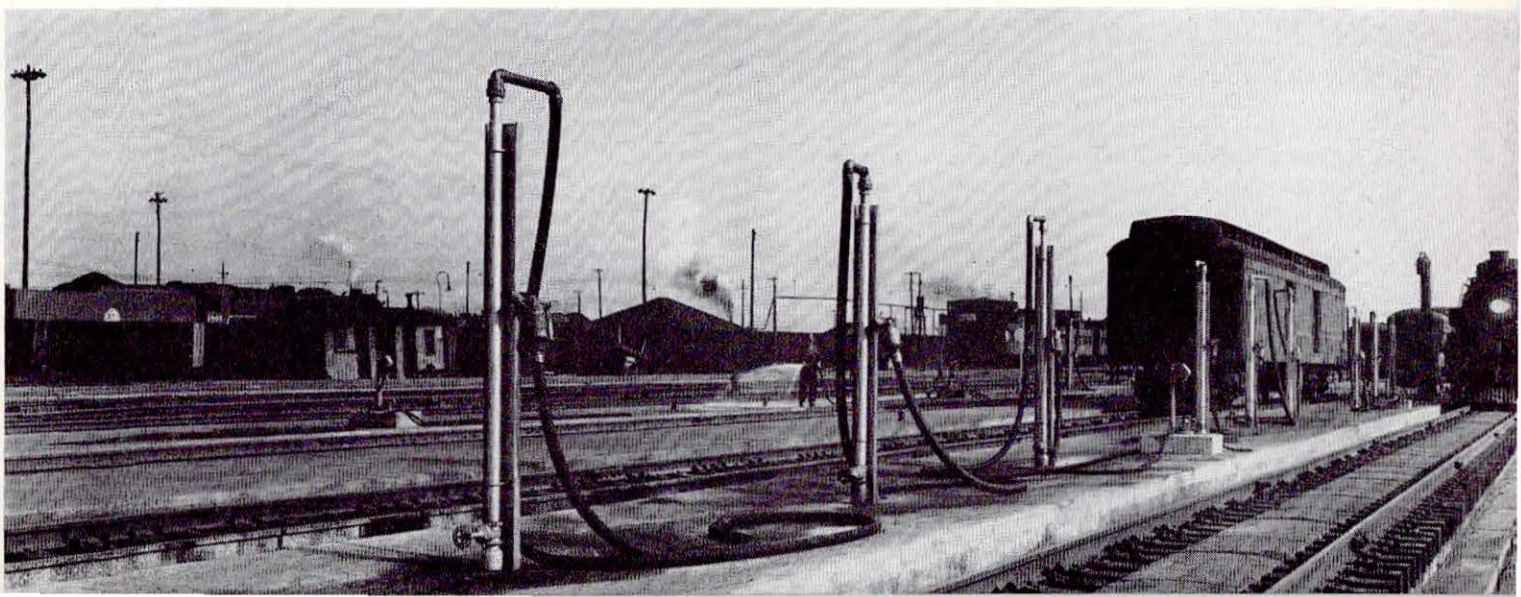
Prior to the recent improvements, all servicing of trains, including the handling of mail and express, was done on any one of the inter-track platforms, all of which were of asphalt and concrete. This work frequently conflicted with the loading and unloading of passengers and led to much confusion and some delays to trains. Furthermore, the facilities for watering coaches did not meet the sanitary requirements of the U. S. Public Health Service, and those for supplying fuel and water to Diesel locomotives were limited in both number and capacity, having been installed as temporary expedients.

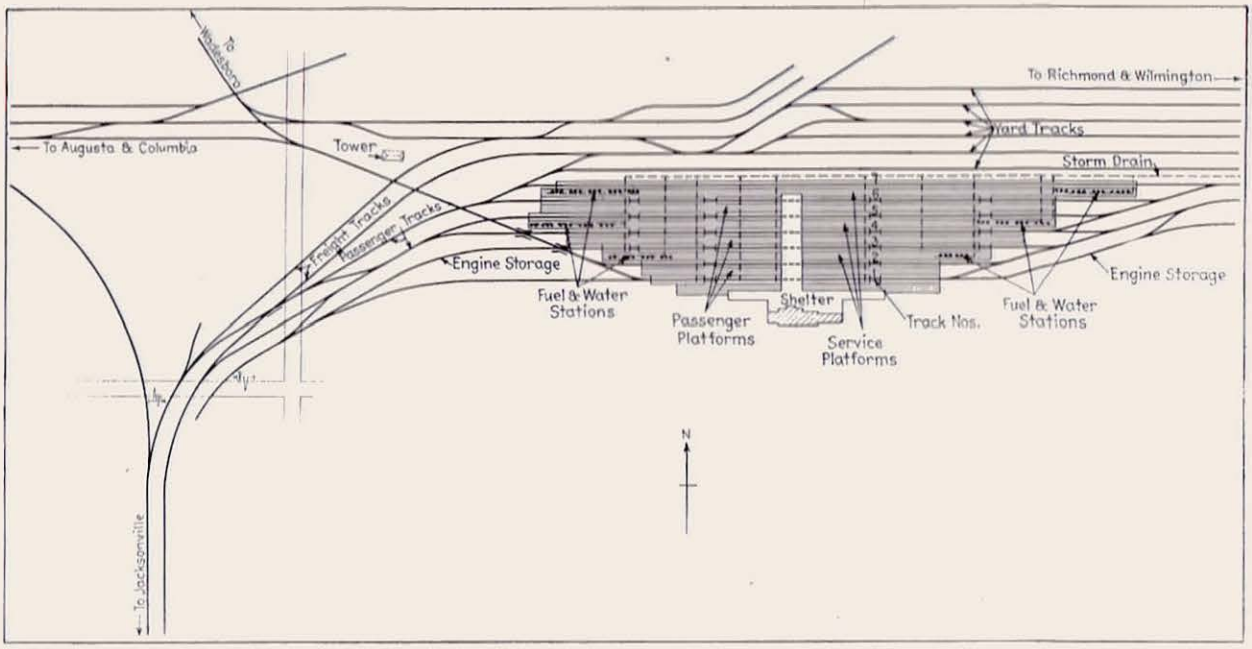
Tracks Now Hold 20-Car Trains

After considerable planning, an overall improvement program was initiated and work was begun in April of last year, being done by company forces. This included increasing the length of the station tracks to accommodate 20-car trains with three-unit locomotives, rearranging both ladder tracks for No. 8 frogs, and the installation of modern interlocking plant to serve the west ends of all of the station tracks and to control train movements at other points in the area.

At the same time, the station tracks were entirely rebuilt on concrete-slab supports, new concrete passenger and service platforms were constructed between the tracks, and a completely new drainage system was installed.

Also, modern Diesel-locomotive fueling and water-





Sketch plan of the tracks, platforms and service facilities at Florence

ing facilities and sanitary coach-watering facilities were installed on the service platforms.

The initial step was the lengthening of the station tracks and the construction of the new ladder tracks. This was done under traffic but, by taking two tracks out of service at a time and returning them to service as soon as the work was completed, the change was accomplished without seriously interfering with train movements.

Signals and Interlocking

The second phase of the work was to install the new interlocking plant. This plant is of the all-relay electro-pneumatic type and includes 13 single switches, 2 double-slip crossing and 1 single-slip crossing, all of which are equipped with Type A-5 switch machines. Three two-arm high signals and 28 dwarf signals were included in this work. Compressed air for the switch movements is supplied from the mechanical department shops.

The interlocking machine is the Union Switch & Signal Co.'s type "C," with a panel 5 ft. long including miniature levers to control the switches and signals. The machine is located on the top floor of a new two-story fireproof brick tower, the first floor of which houses racks on which are mounted plug-in type relays, rectifiers, etc. All relays outside the tower are housed in sheet-steel cases equipped with plug-type couplers.

Supporting Slabs for Tracks

Other signal work included installation of electric locks on four hand-thrown switches; provision for remote control of a crossover on the line to Augusta, near the tower; and installation of electric crossing gates and flashing-light signals at a public crossing within the limits of the interlocking. The signals and interlocking machine were installed, under contract, by the Union Switch & Signal Co.

Each station track, between ladders, is supported on a concrete slab 10 ft. wide. In cross section the slabs appear as two sets of three steps, rising on opposite sides to a high point between the rails. The lowest levels on both sides, 1 ft. 3¼ in. wide, form the gutters, while the intermediate levels, 2 ft. 6 in. wide, support block ties which, in turn, support the rails. The top step, 2 ft. 5 in. wide, is located between the lines of block ties. The slabs are 19 in. thick at the center, a minimum of 12 in. thick under the ties, and 6 in. thick at the gutter level.

The slabs were poured in alternate sections, 9 ft. 9 in. long, using steel forms. High early-strength cement was used so that the forms could be removed daily and reset the next morning. Employing two separate forces in this operation, production averaged 20 such sections each day. The total length of slabs is 10,133 ft.

The station tracks are laid with 100-lb. relay rail on double-shoulder 7-in. by 12-in. tie plates. The block ties are 9 in. wide by 7 in. high by 2 ft. 6 in. long. Every sixth tie is full length and is laid in a groove through the high center portion of the slab. Every third block tie is bolted to the slab with 1-in. bolts placed when the concrete was poured. All other ties, including the long ties, are held in position by cut spikes placed point-up in the concrete at the time of pouring so as to protrude about ¾ in. above the slab. The weight of the first train to pass over the track seated the ties on the spikes, holding them in place. Rail anchors were installed to bear against each side of the block ties that are bolted to the slabs.

The new platforms, which are approximately 10 ft. wide, with their top surfaces 6 in. above top of rail, total 9,360 ft. in length. The passenger platforms alternate with the service platforms, an arrangement which prevents inconvenience to passengers and interference by passengers with train servicing operations. At five locations in the station area concrete cross walks, 20 ft. wide, facilitate handling baggage, mail and express between platforms. One additional cross walk, 60 ft. in width and leading directly north from the station building, has a shelter shed finished in Transite.

Servicing Facilities

Diesel locomotive servicing facilities were installed at each end of the three service platforms. These contain fuel and water stands and are arranged so that any combination of types of locomotives can be serviced with short hose connections.

The fuel and water stands are similar, except for the fittings for attaching the hoses to the locomotives. Each stand consists of an 8-in. channel support, 8 ft. high, placed vertically in the concrete platform. Each channel supports a 2½-in. wrought iron pipe, with a cut-off valve approximately 3 ft. above the platform. At the top of each riser is a swing joint with a short length of horizontal pipe to which is connected a 15-ft. length of 2½-in. hose. Each hose is equipped with a 2-in. Bowser nozzle and quick coupler. The couplers for fuel and water have distinctive lugs so there will be no chance for attaching a water line to a fuel-oil connection or vice-versa. All piping for these facilities is of wrought iron manufactured by A. M. Byers Company, Pittsburgh, Pa., and has screw couplings. To prevent leakage under the concrete track supports and platforms the couplings were also electric welded.

The new fueling facilities were connected to existing fuel supply lines, but new fuel meters and filters were installed and push-button controls were provided at each station. The new system is effecting a substantial saving in the time required for servicing locomotives and also eliminates waste of oil on the station grounds.

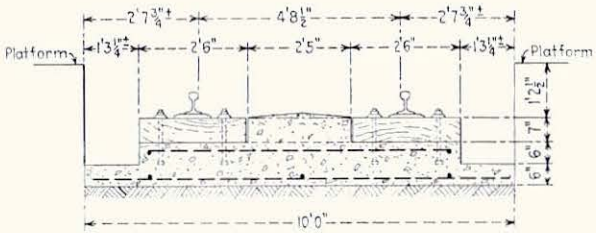
Coach-Watering Hydrants

For watering coaches, a number of McGarry, Style Cy-453-A, post-type hydrants, manufactured by the Railroad Products Company, Cincinnati, Ohio, were installed at 90-ft. intervals along each service platform. This hydrant is designed to withstand hard usage and is reported as being non-freezing, pollution proof and self-draining. The hydrants are placed in line, near the south side of the platforms, eight feet from the center of the adjacent track, thus being completely outside the track area. The hose connections on the hydrants are above the floor level of coaches to minimize further the possibility of contamination. A concrete block, 8 in. high, is located around each hydrant to prevent damage by baggage trucks. All pipe lines for the coach watering system are of copper, with solder-type fittings, and range in size from 1 in. to 4 in. Copper pipe was selected because of its high resistance to corrosion and ease of installation.

The new drainage system embodies 11 lateral drains which extend beneath all of the station tracks. These are of 12-in. Armco corrugated, coated and perforated pipe and lead to a main out-fall line located directly north of and parallel with Track 7. The out-fall line, 2,250 ft. long, consists of 24-in., 30-in. and 36-in. Armco corrugated, coated pipe.

Extensive Drainage System

Drainage from the track area enters the system by means of drop inlets in the gutters of the track slabs, these feeding directly into the lateral drains. The inlets are made of corrugated, coated pipe tees of suitable size, the bottoms of which are filled with concrete, while the tops extend through to the surface of the gutters and are covered with cast iron gratings.



Cross section of one of the track-supporting slabs

The project was planned and executed under the general direction of Robert L. Groover, chief engineer, Wilmington, N. C.

One of the McGarry pollution-proof hydrants installed on the service platforms for coach-watering

HIGHWAY FINANCING AND THE RAILROADS

By EARL R. FELDMAN
Research Engineer,
Competitive Transportation Research,
Association of American Railroads

Cost of improved streets and highways should be paid by those who use them

The railroads have very openly stood for equality of taxation of all forms of transportation. They have said with regard to highway motor transport and the railroads that there is no equality of taxation. That is the issue raised in this discussion.

One of the primary requisites for any clear discussion concerning taxation of transportation is to have the meaning of taxation the same for all forms of transportation, else the discussion itself is without meaning. There are business taxes such as income, capital stock, payroll, and so forth, which should be levied alike on all transport. These taxes will not be referred to here. We are concerned with:

Ad valorem taxes—An ad valorem tax is a property tax. For the railroads it means a tax on the roadway, rolling stock, and other tangible property.

User taxes—User taxes or user payments are a modern version of the toll. They are imposed as a payment toward the cost of facilities provided for motor vehicle use. They must be distinguished from ad valorem taxes which are imposed for the support of government functions and not for the special benefit of the one who pays. The highway user makes various payments which enable him to use the highways. They include a tax on liquid fuel used in the vehicles, and a registration fee usually based on some physical or mechanical attribute of the vehicle. Some states also require payment of fees by the operators of certain commercial for-hire vehicles for the privilege of using the public highways in the conduct of a commercial hauling or carrier business. Regardless of what these payments are called, whether licenses, or fees, or taxes, they are nevertheless user payments.

Tax Equivalents

The public constructs and maintains streets and highways with public funds. The highway user provides rolling stock, paying ad valorem taxes in some states on the vehicles. The highways are public property, and no property taxes are levied on the investment in the improvements of the streets and roads or on the land on which the improvements are located. The railroad pays ad valorem property taxes on its investment in roadway, the taxes being levied for general government purposes.

The subject of tax equivalents has been discussed in the report by the Section of Research of the Federal Coordinator of Transportation, published in 1940, under the title "Public Aids to Transportation," vol. IV. The coordinator's report stated:

> There are policy reasons which would justify the assessment of a tax charge. Included are such important matters as the greater equalization of the terms of competition to the end of better planning and a higher degree of coordination, and the very practical consideration that much private property has been eliminated from the tax list as public capital has increasingly provided transportation facilities and lessened the earning power of private facilities. . . .
>
> They (taxes) may appropriately be considered in comparing the costs of an agency which pays taxes on all its facilities for the support of the general functions of government with those of an agency which uses tax-free public facilities.

It is a fair conclusion from the foregoing quotation that when railroads and highways are considered together in our national economy, the tax element must be included.

The Federal Board of Investigation and Research published in 1944 a comprehensive report on carrier taxation. The staff report of this section made certain findings and conclusions regarding the comparative tax burdens of the several carriers. The report concluded that "the oil pipe lines, intercity bus lines, and railroads were more heavily taxed in 1940 than the intercity truck lines, air lines, and water carriers." A contributing factor to the relative overtaxation of these carriers is said to be "the failure of both federal and state governments to levy user taxes and other charges upon the motor carriers (particularly the truck lines), water carriers, and air lines sufficient to cover a fair share of highway, waterway, airway, and public terminal costs plus a reasonable property tax equivalent on publicly-owned facilities."

Thus it would seem that both federal reports favor the payment of a tax equivalent by highway users on publicly-owned facilities.

Deficiency in User Payments

Moreover, the railroads believe that in addition to the inequality in the property tax burden, there is a further inequality due to the fact that the highway user does not fully pay his way. The Board of Investigation and Research reported to Congress that government spent in the 20-year period, 1921-1940, over $41 billion for construction, operation and maintenance of all highways, roads and streets over which

Adapted from a paper presented at a round-table discussion of highway financing at the 41st annual conference of the National Tax Association at Denver, Colo.

highway operators roll their vehicles. The board determined that total user charges paid in the same period by motor vehicle operators amounted to about $14 billion. This leaves some $27 billion to general taxpayers, a shift which has greatly lightened the cost of operation by highway. Thus, the public aided highway operators in the matter of annual expenditures by assuming approximately 65 per cent of such expenditures in that period.

If the board's figures for expenditures and user payments are brought up to 1948, they would total about $53 billion and $23.5 billion respectively.

The federal coordinator's Section of Research compiled data for 1921-1937 with similar conclusions.

While these two studies were nationwide in scope, studies made by the states have reached the same conclusions. Some 10 years ago Illinois and Missouri made their reports, and in recent years a number of other states have studied the same question. In a very comprehensive report entitled "Highway Needs in Michigan," prepared by a committee representing the Michigan Good Roads Federation, it is said that since 1910 general revenues have paid 43 per cent of the total road and street bill, highway user payments have provided 42 per cent, and the federal government has contributed 15 per cent. In a recent exhaustive study entitled "An Analysis of Taxation for Highway Purposes in California, 1895-1946," it is said that excluding federal aid, the general taxpayers contributed 45 per cent of the expenditures for all streets and highways during the 26-year period 1920-1945.

It has been a relatively simple matter for all these reports to determine expenditures and user payments, and all the studies have reached the very evident conclusion that user payments have failed in large measure to meet the expenditures. The relief of payment for these tremendous expenditures has obviously decreased operating costs of motor vehicles, and thus created an unequal competitive relationship between motor vehicle operators and railroads.

Division of Costs

The third issue between highway users and railroads is the basis on which highway cost has been allocated between highway users and others. It should be noted here that *no* study of highway costs has been made which charged motor vehicle operators with all of the costs.

Those who divide these costs say that there are other uses than motor vehicle use, and that "there are others who receive substantial direct benefits from these facilities." I want to emphasize the word *benefits* for the reason that it is fundamental in the allocation of costs. These benefits are said to include the performance of governmental functions such as activities relating directly to the national defense, fire and police protection, and various other activities of federal, state, and local agencies.

The railroads believe that such or similar benefits to lands and localities and society are produced by all transportation agencies as well as by all other large scale enterprises, whether public or private. A privately operated transportation agency, however, must provide its own facilities, and must meet its costs from charges paid by users of its services. It cannot levy toll or tax on land owners or other non-users.

The railroads have repeatedly said that no distinction can be made between social and economic benefits resulting from improved highways and those resulting from railroad operation. All benefits derive from transportation, whether by highway or rail. Transportation benefits by rail, as by highway, accrue to government, to business, to other forms of transportation and to land owners. The benefits arise solely from the fact that highways and railways are used for transportation. In this respect highway users are not different from railway users.

The principle of benefits implies the absurdity that the owner of land, for example, because he is benefited by an improved highway through increased land values, should pay a part of the cost of the improvement and then, in addition, should pay the highway users who utilize the improvement for highway transportation service. There is just as much reason that a land owner whose property has been enhanced in value due to the proximity of rail transportation should pay something to the railroad in addition to the charge for transportation service. There is just as much reason to say that the land owner whose property has been decreased in value should be continuously paid by highway users.

The fact is that unless every user of improved highways is charged fairly for his use of these facilities, we are headed directly for a socialized industry. When departure is made from the strict principle of each user paying fairly or adequately for his use of the highway, then we are placing upon the general taxpayer the burden of furnishing it.

Allocation of Cost

Still another difference of opinion is with regard to allocation of highway cost among classes and types of motor vehicle operators. Direct competitors of the railroads use large types of vehicles, such as buses and trucks and trucking combinations. Unless they pay their fair share, there is inequality between the railroads and the motor vehicle operators.

If motor vehicle operators as a general class are not meeting their cost responsibility, then no user of the improved highways is being charged fairly for his use of these facilities. Furthermore, the share of highway and street costs to be met by all operators should be allocated fairly among the different classes of motor vehicles.

Automobile operators as a class are making user payments in nearly every state in excess of their fair shares. The staff report on public aids referred to earlier found that small passenger cars or automobiles as a class far exceeded any other class in payment of revenues in excess of their proportionate shares of road costs. With regard to the classes of vehicles which failed to pay their proportionate shares, namely, intercity buses with 25 or more seats, farm trucks, non-farm trucks (except the smallest) and property-carrying combinations, that report said, "These vehicle classes were, in effect, subsidized by other highway users."

The heavier types of vehicles that require extra

bridge or pavement width and strength, flat grades and curves, and other features, should pay the cost of these extra features in full. A number of states are now permitting vehicles weighing much more than was permitted 10 years ago to operate over much better highways with only minor, if any, increases in user payments. These states thus encourage the demand for still heavier vehicles.

This is another inequality to the extent that the larger and heavier vehicles are not paying a proportionately larger share of the costs.

Diversion

The National Highway Users Conference and various other highway promotion organizations have been furthering adoption of so-called "anti-diverson" amendments to state constitutions. Let us examine briefly what diversion means. Some of the user payments I have been discussing are expended for non-highway purposes and such funds are often claimed by them to be "diverted" from highway purposes. They usually think of diversion as the use of highway user payments for other than construction, improvement, and maintenance of highways and administrative expenses thereof, including the retirement of bonds for the payment of which the revenues have been pledged.

The constitutions of 20 states have been amended so that highway user payments, such as motor fuel taxes, vehicle registration fees, drivers' licenses, certificate of title fees, and motor carrier fees, must be used for highway purposes only. The Highway Users Conference has recently stated that $2 billion of highway user payments has been "diverted" to non-highway purposes during the past 13 years. In the same period a total of $26 billion has been expended for all highways and streets in the nation, and user revenues amounted to a little over $16 billion.

The policy of the anti-diversion adherents requires that taxes collected from any source must be returned to that source. Students of tax policies are, therefore, interested in finding out what would happen if special accounts outside of general funds were set up for each facility producing revenue for government, which is the logical procedure based on the theory and practices of the "anti-diversionists." Such a policy would bankrupt every government in a very short time. There would be no money available to carry out general governmental obligations to the general public for there would be no general funds. The "anti-diversionist's" policy carried to its logical conclusion requires spending the proceeds from real property taxes for the special benefit of land-owners; spending the proceeds from beverage taxes for the health, happiness, and burial of imbibers; spending the proceeds from cigarette taxes for the special benefit of cigarette smokers, and so on *ad infinitum*. Where would we obtain money for the support of public schools, courts, law enforcement agencies, fire departments, and so forth?

As the New York Tax Commission said in 1937:

> As applied to motor fuel taxes, the term diversion in common use is a misnomer and is misleading. To earmark and label state revenues, or any part thereof—for example, earmarking motor fuel tax revenue exclusively for highway purposes—constitutes by the limitation thus imposed a diversion of state revenues. It is a cardinal rule of sound governmental finance that all tax revenues should properly be paid into the general fund of the government and disbursed for general expenses and purposes of government.

It was shown earlier in this paper that motor-vehicle-user revenues have failed by a large measure to equal expenditures on streets and highways. About this the New York State Tax Commission commented:

> Instead of being a creditor of the state, the car owner is a debtor, even on the grounds of taxes paid versus money spent for highways. . . . In fine, diversion is a myth, created by the unfair use of statistics to substantiate the claims of those who are committed to a policy of agitating for tax reductions.

It would seem, therefore, not only fair to all taxpayers but to the motoring public as well to allow highway user payments to be paid into general funds at least until such imposts are sufficient to meet all costs incurred for highways users. When that time arrives and the "anti-diversionists" favor earmarking for highway purposes, then the public might well consider the restriction of all spending for such purposes to the so-called highway-user revenues. If highway-user revenues are not be "diverted" to general government uses, then general government tax receipts should not be "diverted" to highway purposes.

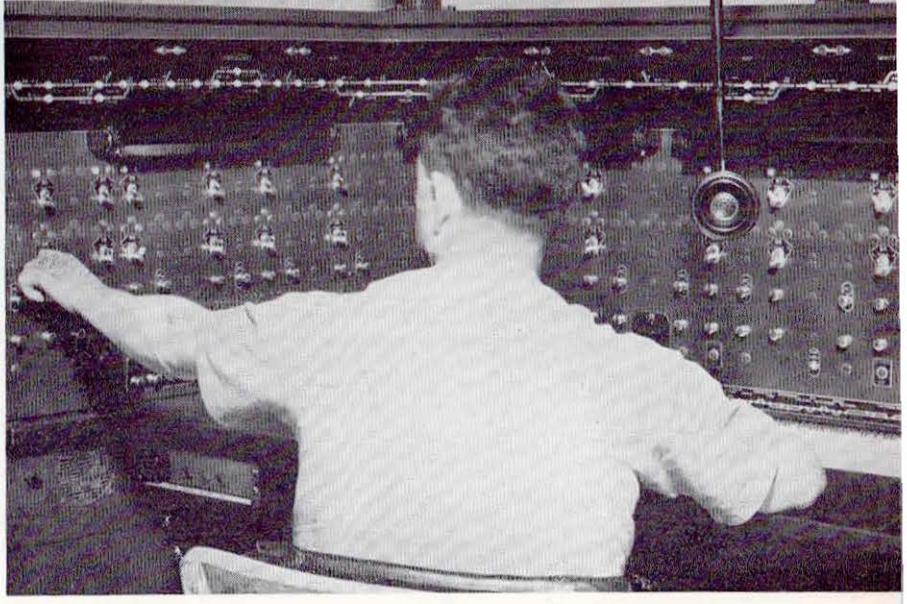
Free Reciprocity Among States

Certain highway user payments are evaded by interstate commercial operators through state reciprocity agreements. State reciprocal authorities exist in every state and the District of Columbia for the purpose of entering into mutual agreements with one another to provide for freedom from regulatory laws, rules, charges, permits, licenses and fees, or taxes, otherwise applicable to out-of-state vehicles from states with which there are no reciprocity agreements. Reciprocal agreements have not been entered into by all states to include all of these items. The extension of free reciprocity agreements among the states in recent years has, however, been sufficiently large seriously to affect state incomes from highway user payments.

Costs of interstate commercial vehicle operations are reduced whenever the operator is relieved from payment of a registration or license fee to a state in which he operates outside his home state, by the simple expedient of a free reciprocity agreement between the two states. The railroads stated their position in this matter in 1933 when they said "States should enter into reciprocal agreements for issuance of special licenses for commercial vehicles to cover states other than the home state at equitable rates to be determined by the conditions which prevail." This statement constituted one of the recommendations resulting from a study of the rail and highway transportation problem by members of the Joint Committee of Railroads and Highway Users.

I close by reminding you of the why and wherefore of the highway today. The facilities presently represented by improved streets and highways are all attributable to the use of motor vehicles in our present-day society. The cost of these facilities should rest with the users of them.

Modern signaling helps to reduce road time of loaded trains three to four hours on 128 mi. C. & O. line, mostly single track, handling 1,700 freight-cars and two passenger trains each way daily



C. T. C. control machine is in the dispatcher's office in Ashland, Ky.

MORE CAPACITY ON SINGLE TRACK WITH C. T. C.

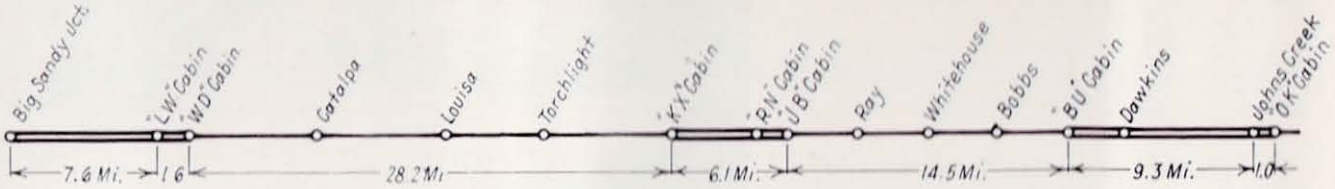
To increase track capacity and improve the safety of train operation, the Chesapeake & Ohio has installed modern signaling on the entire Big Sandy subdivision, between Big Sandy Junction, Ky., and Elkhorn City, 128.2 mi., on which a heavy coal tonnage is handled. This includes centralized traffic control on 59.3 mi. of single track and 12.4 road miles of double track between Big Sandy Junction and Martin, Ky., and automatic block signaling on 42.7 mi. of single track and 1.7 road miles of double track between Beaver Junction and Elkhorn City. As a result, trains can be spaced more closely with safety, and dispatchers can plan and execute meets on closer time, avoiding many former delays and reducing the running time as much as three to four hours.

At Big Sandy Junction, at the west end of this project, the Big Sandy subdivision connects with the east-and-west main route of the C. & O. between Newport News, Va., and Cincinnati, Ohio. Big Sandy Junction is on the south bank of the Ohio river, and from there the Big Sandy subdivision follows the valley of the Big Sandy river and its branches for 128.2 mi. eastward to Elkhorn City. The line ascends eastward at a river grade, except for short rolling grades where it crosses bottom lands a short distance from the river. Throughout the last 100 mi., the railroad is in a narrow valley between rugged hills, and Elkhorn City is at the base of the main ridge of the Pine mountains.

Sections of Second Track

Where the valley is narrow, the river often is on one side of the track and a steep hillside on the other. From an economical standpoint the sidings and sections of second main track could only be constructed where open space was available. Double track extends 7.6 mi. east from Big Sandy Junction to LW cabin, where there is a pair of main-track crossovers. The two main tracks then extend 1.6 mi. to the end of double track at WD cabin, each main track being signaled for either-direction operation. Single track extends 28.2 mi. between WD cabin and KX cabin, with sidings at Catalpa, Louisa, and Torchlight. Two main tracks, each signaled for either-direction operation, extend 6.1 mi. between KX cabin and JB cabin,

Westbound freight train passing end of double track at "WD"



Above left and right—Diagram indicating the field locations and sections of single and double track in the entire territory between Big Sandy Junction and Elkhorn City

Left—Map of the Big Sandy sub-division

with a pair of main-track crossovers at RN cabin. Directly beyond is 14.5 mi. of single track, from JB cabin to BU cabin. Double track, right-hand running, extends 9.3 mi. to a pair of main-track crossovers at Johns Creek, and from this point the two main tracks extend 1.0 mi. to the end of double track at OX cabin, each main track being signaled for either-direction operation. From OX cabin to EM cabin, 11.8 mi., is single track with a siding at Prestonsburg. From EM cabin to Beaver Junction, 3.7 mi., there are two main tracks, each signaled for either-direction operation.

The switches and signals at Big Sandy Junction and at Beaver Junction are included in interlockings controlled locally. The power switches at the ends of sidings, at the ends of two-track sections, and at crossovers between main tracks between LW cabin and EM cabin, inclusive, as well as signals governing movements over these switches and crossovers, are controlled by a centralized traffic control machine in the dispatcher's office at Ashland. The signals on the branch line between Beaver Junction and Martin, 4.8 mi., are controlled jointly by the operator at Beaver Junction and the operator at Martin. Straight automatic block signaling was installed between Beaver Junction and Elkhorn City, with the exception that at Fords Branch there is a table-lever control machine which contains signal and switch selection levers, controlling signals at Fords Branch and Shelby Junction — the switches and crossovers being hand operated.

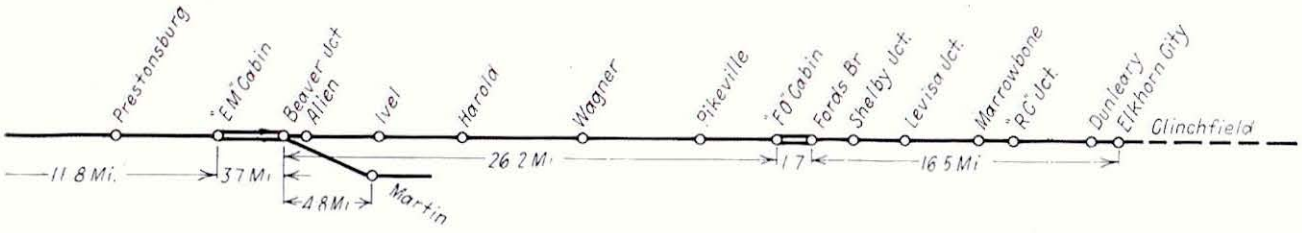
Manifest and Coal Traffic

At Elkhorn City the C. & O. connects with the Clinchfield, which extends southeast, connecting with other railroads serving North Carolina, South Carolina, eastern Georgia and Florida. The C. & O. operates two manifest freight trains each way daily for interchange with the Clinchfield at Elkhorn City. This traffic varies, depending on the Florida fruit and vegetable season, as well as other factors, but on the average each manifest train handles 60 to 70 loaded cars in addition to empties.

Aside from the manifest freight interchanged with the Clinchfield, and freight to and from stations on the line, the principal traffic on the Big Sandy subdivision consists of westward outbound cars of coal and eastward inbound empty coal cars. Many coal mines are located in the territory served by the Big Sandy subdivision main line and branches.

Up to 2,000 Loaded Cars Daily

Mine-run local trains are operated to set out empty cars and to concentrate the loads in yards where tonnage trains are made up for operation through to Russell yard, on the main line 10.5 mi. west of Big Sandy Junction. When the mines are in full operation and cars are available about 800 loaded cars are dispatched daily from Shelby yard, 600 from Martin, and 200 from Paintsville. The total of 1,600 to 1,700 cars of coal daily is 500 to 600 more than the daily maximum number handled in 1945 and 1946. Furthermore, an increase to 2,000 or more loaded cars daily is anticipated when mines now being opened up on new branch lines are in full operation. Ordinarily, the loaded coal cars are handled in solid trains, each consisting of about 120 cars, totaling about 9,600 tons. However, light tonnage trains out of Martin pick up at Paintsville. Approximately 12 loaded coal trains are operated westbound daily and there are about the same number of eastbound trains of empty coal cars.



The tonnage rating is 10,000 tons westbound. No tonnage rating is set up for eastward trains as they all handle empties and are limited to 160 cars. Because the railroad follows the river, the grade is descending all the way westbound, in the direction of loaded-car movement. The ascending grade eastbound varies up to a maximum of 1.22 per cent. Curves are numerous but only a few are sharp enough to restrict the speed of freight trains. The maximum authorized speed of the manifest freights is 40 m.p.h., and of coal trains 35 m.p.h. Two scheduled local passenger trains, making all stops, are operated each way daily. These trains make connections at Ashland with main-line trains east and west and with Lexington subdivision trains, and at Elkhorn City with the Clinchfield.

New Signaling Saves Time

Prior to this installation, there was no automatic signaling on the Big Sandy subdivision, train movements being authorized by timetable, train orders and manual block. The block offices were from 6 to 7 mi. apart. It was the practice to maintain absolute block for passenger train movements, while freight trains were permitted to follow one another in the same block with the following train receiving a permissive signal on entering the occupied block, requiring operation at restricted speed. Meets at blind sidings were not permitted. At times, trains had to wait to enter a block, which frequently caused the passenger trains to lose much time. As traffic continued to increase, some means of increasing the track capacity by running trains closer together was necessary, and it was decided to install centralized traffic control, with power switches and automatic block signals. Loss of time by trains has since been held to a minimum.

One of the benefits derived from this installation is the increased track capacity resulting from being able to run trains closer together, with safety of automatic signal protection. In the C.T.C. territory, dispatchers, by closely observing the location and progress of trains, as indicated on the illuminated track model board, can plan and execute closer meets that save considerable train time. When trains were operated by train orders and manual block it was not uncommon for a coal train from Martin or Shelby to Russell to have its crew relieved en route. Since the installation of signals and C.T.C., however, the average run is made in four to five hours, compared with eight or more hours previously.

This signaling project was planned and constructed by the signal forces of the Chesapeake & Ohio.

New Books . . .

THE NICKEL PLATE ROAD, by Taylor Hampton. 350 pages, illustrations, maps. Published by the World Publishing Company, 2231 West 110th street, Cleveland 2, Ohio. Price, $3.75.

The New York, Chicago & St. Louis is a comparative newcomer among Class I railroads. Unlike those which are celebrating their centennial this year, or have done so within the recent past, it is a long way from having completed its first full century. Yet it holds a high place in the railroad industry — and when the histories of so many other railroads are being written it is entirely fitting that the Nickel Plate should also be the subject of a volume of its own.

This book is a worthy companion to those which tell the stories of other great railroads. It might perhaps have been improved by a few simple sketch maps showing details of construction and growth which are sometimes difficult to follow from the text, from the end paper maps of the present system, or from the old timetable maps reproduced in the book. For all that, it provides interesting reading in the story of one of the few railroads which achieved trunk-line status by design of its original builders rather than by piecemeal extension or more or less accidental absorption of other companies; and one which is better known by its nickname than by its corporate title.

THE PENNSYLVANIA RAILROAD—A PICTORIAL HISTORY, by Edwin P. Alexander. 248 pages, illustrations. Published by W. W. Norton & Co., 101 Fifth avenue, New York. Price, $6.

This book is a summary, rather than a full account, of the history of the Pennsylvania, with the emphasis on its inception and early growth, and with the story told more by pictures than by words. Less than half the book, in fact, is devoted to text; rather more than half is taken up by reproduction of over 300 illustrations of old and new roadbed, bridges, tunnels, stations, cars and locomotives. Of particular interest is the series of maps illustrating the

development of the road's present entry into New York City.

A student, interested in minute details, will find that this book leaves many questions unanswered. But the average reader, less concerned with such detail, will be able to obtain from it, in an hour or two of easy, interesting reading, a satisfactory general picture of the Pennsylvania's extensive growth and intensive development. The pictorial technique, incidentally, is one which perhaps might advantageously be more generally used to popularize the history of the railroads as a whole, or of individual companies — without, of course, detracting from the need for or value of more detailed studies.

Communications . . .

Defective Car Wheel Detector

DENVER, COLO.

TO THE EDITOR:

With approximately 400,000 mi. of railroad track in the United States, there is no spot in this entire mileage where automatic means are employed to check moving car wheels for broken flanges and treads. I have developed and patented several forms of special devices to detect defects of car wheels, and I have set up working models to demonstrate these detectors. During the past several years I have contacted many railroads but only a relatively few have evidenced enough interest to send official representatives of their signal and mechanical officers to inspect my detector devices, and no railroad has agreed to cooperate in making a test installation in regular service on its property. Failing to secure this cooperation, I published brief advertisements in the "Get-Together" department of the advertising section of *Railway Age* for August 14 and September 18, 1948. In these advertisements, I explained that my device would detect 3-in. flange or 6-in. tread breaks, as well as missing tires. Also I said that I would appreciate hearing from railroad officers requesting further information. Not a single railroad officer has made such a request.

We read much today of the Iron Curtain surrounding Russia, but from my experience with railroad officers, I am of the opinion that it would be easier to get around the Russion Iron Curtain than over American steel rails only seven or eight inches high. Perhaps my difficulty is caused by the reluctance of any one road to take the initial step. With this thought in mind, I should like to have the Association of American Railroads appoint a small committee to cooperate with me in making a full-scale test installation of my detector on some railroad at a locaion where it could be inspected conveniently by many railroad officers.

On page 31 of *Railway Age* for September 25, you published an editorial "The Moral Obligation to Holler When Kicked." Parts of these comments should remind you that perhaps you have an obligation to lend assistance to those with a justified complaint. All I ask is an actual road test.

M. W. GIESKIENG

[If an inventor has studied railroad operations and organization to the degree necessary to enable him to produce a device likely to be suited to railway needs, then he should at the same time have learned enough about the industry to know how to go about getting a hearing in the proper quarters. If railroad officers should make known their willingness to give ready attention to every inventor who came along with the unsupported claim that he had something of great value to offer, our correspondent can doubtless appreciate that they would have little or no time left to attend to their regular duties. Our correspondent's zeal for his device is praiseworthy, but we cannot agree with him that there exists an "Iron Curtain" operating against acceptance of new devices by the railroads. The continuing and tremendous technological progress of the industry argues utterly to the contrary.—EDITOR]

WHEN IS A "PROFIT" NOT A PROFIT?

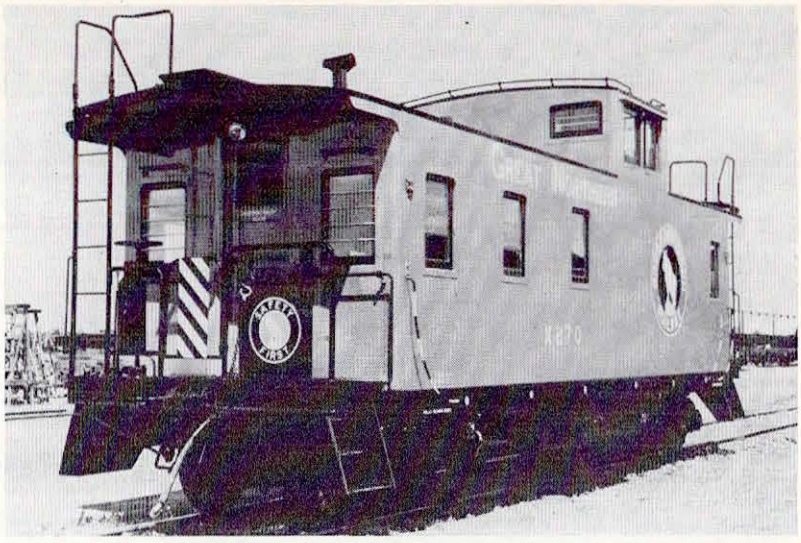
The profit figures achieved and certified by public accountants today are quite alien to economic profits, according to Roy A. Foulke, vice-president of Dun & Bradstreet. In a recent pamphlet, "A Study of the Theory of Corporate Net Profits,"* Mr. Foulke argues that a combination of recorded facts, accounting conventions, and personal judgment results in "accounting" profits that often differ radically from real profits. The existing accountancy framework, he says, is too rigid to reflect accurately the fluctuations of the "real" profit dollar, as it fails to take into mathematical computations depreciation on replacement values, and "accounting profits" due to inventory inflation.

The difference between "accounting" profits and "real" profits is sharply drawn by Mr. Foulke. Real profits are related to current values. Accounting profits are based upon recorded costs that were incurred over a period of time at changing price levels. He adds that the fallacy in comparing accounting profits of today with those of any other period is due to the fact that dollars of different values are involved for each period.

In his analysis of the theory of profits, Mr. Foulke says, "There is great basic confusion between accounting and economics—first, because economics knows only one value, economic value; second, because 'profit' as the word is used and practiced by accountancy, today represents a combination of economic rent on the value of land and economic profit on invested capital. Money is a medium of exchange, not an absolute measure of economic value. Yet accountancy, as a mathematical science, uses money as a unit of measure, and it uses the money of this year, of last year, of the year before that, and of ten years ago, all in the same schedule of assets and the same schedule of expenses."

Corporations are forced by the accounting conventions to include depreciation charges that are insufficient during a period of rising prices to replace worn out equipment at the currently high price levels. Low depreciation charges help to give the illusion of high profits. The real level of profits can be determined by relationships with wages, dividends, and earnings generally. These relationships, worked out in considerable detail by Mr. Foulke, he offers as a more practical yardstick for measuring profits. According to the measures, real profits have not risen nearly as high as is indicated by the existing accounting profit figures.

*Copies are available from A. M. Sullivan, associate editor, Dun's Review, 290 Broadway, New York 8.



One of 16 new cabooses recently built at the St. Cloud shops of Great Northern

CABOOSE INTERIORS ARE STREAMLINED

One important feature of the 16 new 30-ft. steel-sheathed cabooses, built at the St. Cloud, Minn., shops of the Great Northern last year, is the attention given to crew comfort and safety. Representatives of the Order of Railway Conductors collaborated with the Great Northern's engineering department in designing the new caboose, and many of the interior and exterior safety features were suggested by union representatives.

The cars are equipped with well-lighted desks and comfortable double seats at opposite corners, also two bunks, ample locker, toilet and washing facilities. A coal-fired stove and combination provision ice box, with small locker at the top, complete the major items of equipment. To avoid possible injuries to crew personnel under shocks incident to freight-train operation, the caboose interiors are streamlined throughout, even to the extent of setting the locker door knobs into the doors so there will be no projections.

Ample strength is built into the steel underframe and superstructure frame of this car. Posts and braces, integrally welded to the superstructure, are rolled-steel sections. All sheathing is butt-welded to the side frames and the seams ground to give straight and smooth exterior car sides. The cupola-type design has been adhered to instead of side bay windows in the interest of greater overall clearance to avert sideswiping by shifted loads on passing trains, and because they are thought to permit better observation of the train as a whole.

The cupola seating used is new on the Great Northern. It consists of two facing seats, one on each side of the cupola, arranged as shown in one of the illustrations. These seats, 29 in. wide, are upholstered in imitation leather and furnished by Heywood-Wakefield.

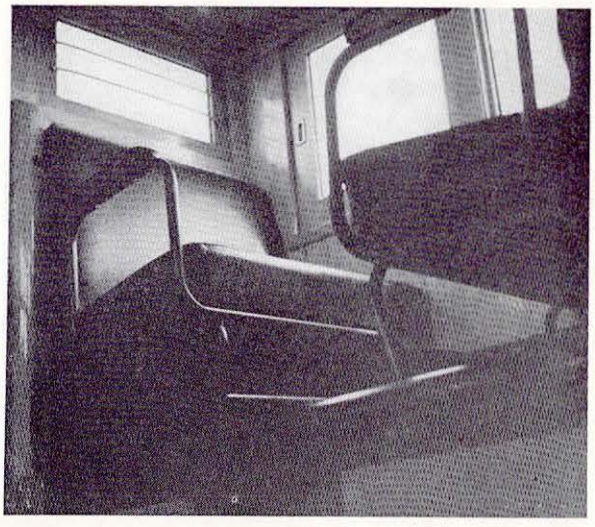
The caboose interiors are lined with plywood in varnished natural finish. All cars are equipped with electric lights and rear-end spot lights which can be controlled as to direction by a man sitting at the corner desk inside.

Electric power is supplied by a Wincharger, 12-volt, 400-watt generator, suspended from the underframe of each caboose. This is driven by endless V-belts from a pulley mounted near the center of one of the axles. An Exide battery, located under one of the bunks, is of 157-amp.-hr. capacity.

Conventional friction draft gears are of the Miner A28X-B type. Trucks are of the swing-bolster type built by the Great Northern. Timken roller bearings are installed on the first car of the lot, the other 15 cars having plain bearings.

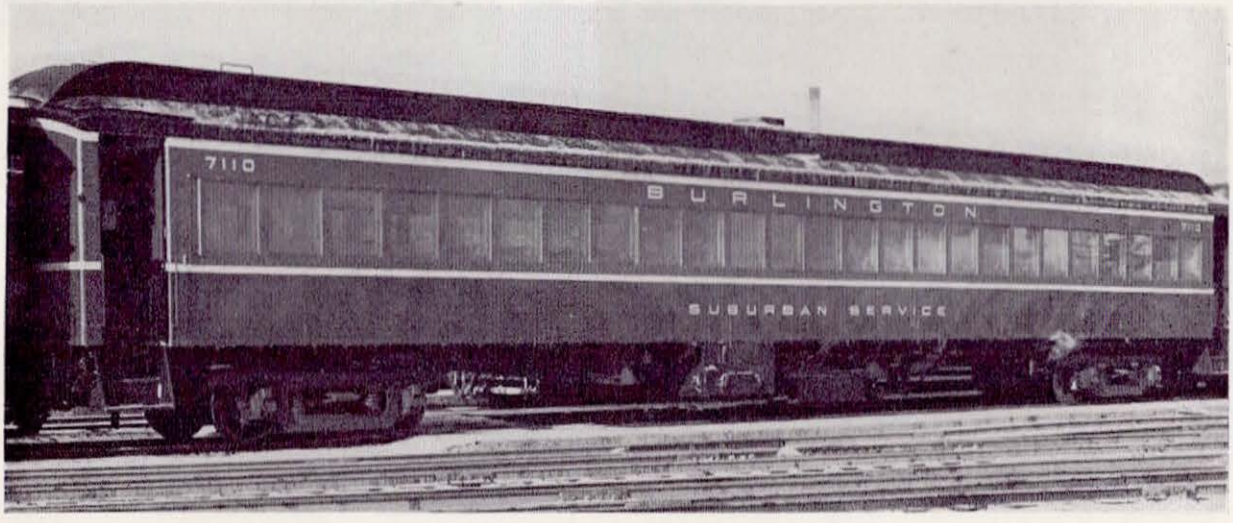
Diagonally striped handholds and end boards, and six round white spots along each side sill are considered an important safety factor because they are more likely to attract attention during daylight and after dark.

In painting these cars, the new infra-red drying room at the St. Cloud shops was used, securing effective paint hardening in the comparatively short period of 20 minutes.



Cupola seats on the Great Northern cabooses

BURLINGTON TO MODERNIZE SUBURBAN CARS



Burlington suburban car equipped with vestibule ends, flush double windows and air cooling

Sixty-five cars will be thoroughly reconditioned and equipped to meet modern needs including air-cooling

As part of a comprehensive program for improvement of its extensive suburban service, which includes an order for 30 new stainless steel, two-level, 148-passenger cars, the Chicago, Burlington & Quincy is currently engaged in remodeling 65 suburban passenger cars, the first of which was recently turned out of shop. The cars, 8 to 20 years old, are of steel construction and seat 96 persons. Major features of the reconstruction include the application of vestibules, tight-lock couplers and rubber draft gears, cast-steel trucks with clasp brakes and roller bearings, double-sealed windows, new insulation, improved heating, lighting, decorative treatement and ice-type air cooling. It is anticipated that the remodeled cars will give another period of effective service, possibly up to 20 years, dependent upon further developments in the passenger-car field.

Work Done at Two Shops

All of these cars, as originally built, had the following parts which are being removed in the new construction: open platforms, old-type couplers and spring draft gears, steam-pipe radiation, light car insulation, composite trucks with plain bearings, single-shoe brake rigging, old-type electric wiring, seat covering and window curtains.

In general, the program calls for stripping the old cars at the Aurora, Ill., shops of the railroad, moving them to the Havelock, Neb., shop for steel work and returning to Aurora for finishing. New steel work includes applying vestibules, trap doors, diaphragms, tail gates, air ducts and perforated ceiling panels on the interiors.

The cars are being equipped with tight-lock couplers, radial-type yokes and rubber draft gears, with new cast-steel trucks and clasp brakes, and with roller bearings mounted on larger journals. These trucks incorporate a bolster locking device and are connected to the car bodies by locking-type center pins.

Heat loss through the car walls and roof is minimized by Fiberglas insulation, and Insulmat sound-deadening insulation is applied to side walls and under parts of the cars. Fin-type steam radiation for floor heat is supplemented by overhead heating coils built into the cooling units in the ceiling at the car ends. Heavier electric wiring is installed, the light fixtures are new, the luggage racks wider, the floor covered with rubber tile, and the seats upholstered with a Vinyl plastic material.

The original sash are retained and new flush outside windows applied, the latter being fixed. Wood filler blocks, secured to the window posts, bring the glass out practically flush with the car sides, and

Interior of a reconditioned and ice-cooled suburban car for the C. B. & Q.

supports at the top and bottom are afforded by two small angles. The glass is set in a sealing compound and light steel strips, applied on the outside, hold it in place.

Air-cooling equipment is of the indirect ice type with two ice boxes having a total capacity of 1,800 lb., mounted one on each side underneath the car. The ice cools water which is pumped through air-cooling coils mounted in the ceiling air chamber at each end of the car. A blower draws recirculated air plus a certain proportion of fresh air into the air chamber from which it passes through the cooling coils.

It then is evenly distributed to the car interior through the perforated center ceiling panels. Effective filters exclude dust and dirt. Temperatures in the car body are under thermostatic control for both cooling and heating.

Decorative Treatment Developed

Electric power for lighting, blower operation in both heating and cooling, pump operation and thermostat control is supplied from a head-end source. No battery equipment is required on these cars.

The provision of clean, filtered air in the car interior, pre-cooled in warm weather when necessary, is expected to contribute greatly to the comfort of suburban passengers.

The interior decorative treatment includes tan side and end walls with deep cream ceilings and light green-and-rust window shades. One-half of the cars will have blue-green Pantasote plastic upholstery on the seats to contrast with rust-colored tile floor covering; in the other half these colors will be reversed.

The exterior color scheme on the first car includes an aluminum painted roof, metalli-chrome gold color from roof to belt line and a medium green metalli-chrome below the belt line. Modern lettering and striping are in cream enamel, and the trucks and underneath car parts are black.

Railroads are private builders and yet are public servants. They must earn sufficiently to accumulate or attract capital investment so as to constantly improve railroad facilities and service. It is only through high investment that present railroad wage scales are possible. It is only through a more equable and considerate treatment that railroads can satisfactorily meet the country's need in peace and war.

———*J. B. Hill, president, Louisville & Nashville*

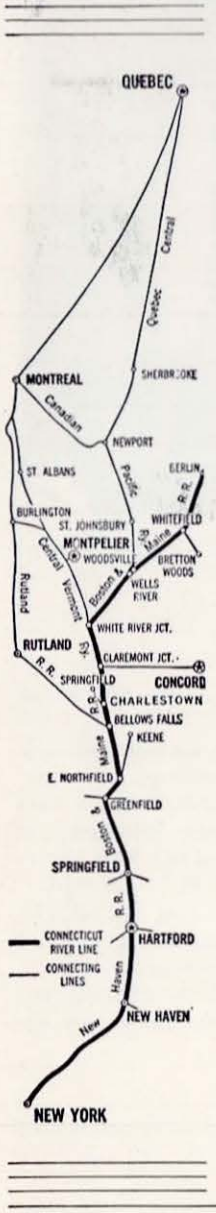
NEW HAVEN SIMPLIFIES ITS PUBLIC TIMETABLES

What do travelers dislike about timetables? What can be done to make them easy to read and understand? How can they be made more attractive and, at the same time, inexpensive to print? These are problems the New York, New Haven & Hartford tackled in the recent redesign of its general public

Connecticut River Line

37

WHITE MOUNTAINS—WOODSVILLE—WHITE RIVER JCT.—NEW YORK—WASHINGTON



	B&M	78	78-7052	712		702	72		74	728	728	7060		732	
	NYNH&H	♦71	91	51	177	♦79	85	171	59	♦99	55	♦101	173	169	
	PRR	...	...	...	177	...	...	171	...	...	...	...	173	169	
BOSTON & MAINE RAILROAD		AM	AM	AM	PM	PM	AM	PM	PM	PM	PM	PM	AM	AM	
Berlin, N. H.	Lv	....	....	....		....	8 10	....	....	2 40	2 40	....	....	....	
Gorham, N. H.		....	....	....		....	8 20	....	....	2 50	2 50	....	....	....	
Bretton Woods-Fabyan, N. H.	Lv	....	....	....		....	....	....	....	....	....	....	....	....	
Whitefield, N. H.	Lv	....	....	....		....	9 15	....	....	3 45	3 45	4 30	....	....	
Littleton & Bethlehem, N. H.		....	....	....		....	9 40	....	....	4 10	4 10	4 52	....	....	
Sugar Hill, N. H.		....	....	....		....	....	....	....	....	....	....	....	....	
Lisbon, N. H.		....	....	....		....	10 00	....	....	4 30	4 30	5 10	....	....	
Woodsville, N. H.		....	....	....		....	10 30	....	....	5 15	5 15	6 10	....	....	
Wells River, Vt.		2 20	2 20	....		....	....	....	....	....	....	....	....	....	
Newbury, Vt.		....	....	....		....	10k40	....	....	5 30	5 30	6 f20	....	....	
Concut, Vt., Lake Tarleton Club		....	....	....		....	....	....	....	....	....	....	....	....	
Bradford, Vt.		2 f37	2 f37	....		....	10 53	....	....	5 43	5 43	6 32	....	From	
Fairlee, Vt.		....	....	....		....	11 05	....	....	6 00	6 00	6 45	....	Mon-	
Ely, Vt., Fairlee Lake		....	....	....		....	11 f11	....	....	6 06	6 06	....	....	treal,	
Thetford, Vt.		....	....	....		....	11 21	....	....	6 16	6 16	7 f01	....	see	
Norwich, Vt. & Hanover, N. H.	Lv	....	....	....		....	11 39	....	....	6 34	6 34	7 19	....	table	
White River Jct., C. Vt. Ry.	Due	3 20	3 20	....		....	11 50	....	....	6 45	6 45	7 30	....	40	
	Lv	4 00	4 00	8 20		12 15	12 15	....	2 50	7 10	7 10	7 45	....	1 45	
Windsor, Vt.		4 23	4 23	8 45		12 38	12 41	....	3 12	7 35	7 35	8 10	....	....	
Claremont Jct., N. H.		4 40	4 40	9 00		12 50	12 55	....	3 32	7 51	7 51	8 23	....	....	
Springfield, Vt., Trans. Co.		....	....	8c40		11c35	11c35	....	....	7c05	7c05	7c05	....	....	
Charlestown, N. H.		4 f54	....	9 18		1 03	1 11	....	3 46	8 04	8 04	8 38	....	....	
Bellows Falls, Vt.		5 18	5 18	9 35		1 16	1 30	....	4 02	8 30	8 30	8 53	....	2 42	
Putney, Vt.		....	....	10 02		....	1 52	....	4h21	8 f51	8 f51	....	....	....	
Brattleboro, Vt		5 58	5 57	10 23		1 50	2 10	....	4 40	9 20	9 20	9 32	....	3 20	
Keene, N. H.	Lv	....	....	9a40		....	....	....	3a45	....	....	....	....	....	
East Northfield, Mass.		6 f14	....	10 50		2 05	2 28	....	4 57	9 40	9 40	9 47	....	....	
Greenfield, Mass.	Lv	6 45	6 45	11 30		2 30	3 05	....	5 22	10 30	10 30	10 10	....	....	
Springfield, Mass.	Due	8 00	7 45	12 30		3 25	4 10	....	6 23	11 30	11 30	11 15	....	4 45	
NEW HAVEN RAILROAD															
Springfield, Mass.	Lv	8 12	8 37	12 55		3 35	4 32	....	6 45	11x59	2 15	12 00	....	4 59	
Hartford, Conn	Due	8 52	9 15	1 27		4 07	5 08	....	7 17	12 31	2 47	12 34	....	5 31	
Berlin, Conn		9 15	9 29	1 44		4 21	5 25	....	7 39	1 07	3 38	12 58	....	....	
Meriden, Conn		9 29	9 40	1 57		4 31	5 36	....	7 54	1 18	3 39	1 12	....	5 58	
	Due	10 00	10 08	2 25		4 57	6 07	....	8 20	2 10	4 20	1 40	....	6 23	
New Haven, Conn.	Lv	10 11	10 15	2 30	3 28	5 05	6 17	6 12	8 25	2 35	4 48	1 50	2 20	6 35	
Bridgeport, Conn		10 31	10 35	2 50	3 50	5 26	6 38	6 32	8 44	2 54	5 13	2 10	....	6 57	
Stamford, Conn.		11 02	11 07	3 22	4 20	5 55	7 14	....	9 19	3 56	5 59	2 52	....	....	
New York 125th Street ⊠		11 39	11 44	4 00		6 32	7 50	....	9 57	4 45	6 44	3 43	....	....	
New York Grand Central	Due	11 50	11 55	4 10		6 42	8 00	....	10 08	4x55	6 55	3 55	....	....	
Penna. Sta.	Due	....	....	....	5 12	....	....	7 43	....	....	....	....	3 53	8 10	
PENNSYLVANIA RAILROAD															
Newark, N. J.	Due	....	....	....	5 44	....	....	8 10	....	....	....	....	....	8 50	
Trenton, N. J.		....	....	....	....	....	....	....	....	....	....	....	....	9 40	
Philadelphia, Pa., 30th Street Station		....	....	....	7 11	....	....	9 34	....	....	....	....	5g48	10 20	
Wilmington, Del.		....	....	....	7 40	....	....	10 03	....	....	....	....	6g19	11 00	
Baltimore, Md., Penna. Station		....	....	....	8 42	....	....	11 05	....	....	....	....	7g30	12 20	
Washington, D. C.	Due	....	....	....	9 25	....	....	11 45	....	....	....	....	8 20	1 10	
		AM	AM	PM	PM	PM	PM	PM	PM	AM	AM	AM	AM	PM	

THE SENATOR — DAY WHITE MOUNTAINS — THE PATRIOT — OVERNIGHTER — THE FEDERAL — THE WASHINGTONIAN

CLAREMONT JCT.—LAKE SUNAPEE—CONCORD

39

Railroad	Mls.		NYNH&H / B&M	Ex Sun 3802	Daily 3808
				AM	AM
NYNH	0.0	**New York,** Grand Central	Lv	....	9 10
&H	33.1	Stamford, Conn.		....	9 58
"	55.6	Bridgeport, Conn		....	10 26
"	72.3	New Haven, Conn.		....	10 50
"	108.9	Hartford, Conn.		....	11 47
"	134.3	Springfield, Mass.		....	12 20
B&M	134.3	Springfield, Mass.	Lv	....	12 32
"	235.5	Claremont Junction, N. H.	Due	....	3 16
B&M	235.5	Claremont Junction, N. H.	Lv	7 00	3 20
"	249.1	Newport, N. H.	Due	7 33	3 53
"	252.1	Sunapee, N. H.		7 43	4 03
"	265.4	Newbury, N. H., Lake Sunapee		7 57	4 17
"	292.2	Concord, N. H.	Due	9 05	5 25
				AM	PM

Railroad		NYNH&H / B&M	Ex Sun 3803 / 85	Sun only 3859
			AM	PM
B&M	Concord, N. H.	Lv	10 15	7 50
"	Newbury, N. H., Lake Sunapee		11 26	8 57
"	Sunapee, N. H.		11 40	9 f10
"	Newport, N. H.		11 51	9 20
"	Claremont Jct., N. H.	Due	12 22	9 50
B&M	Claremont Jct., N. H.	Lv	12 55	....
"	Springfield, Mass.	Due	4 10	....
NYNH	Springfield, Mass.	Lv	4 32	....
&H	Hartford, Conn	Due	5 06	....
"	New Haven, Conn.		6 07	....
"	Bridgeport, Conn		6 38	....
"	Stamford, Conn.		7 14	....
"	**New York,** Grand Central		8 00	....
			PM	PM

♦ No checked baggage handled on this train.
a Change trains at East Northfield.
c By Vermont Transit Co. bus to Charlestown.
d Change busses at Claremont for short transfer to Claremont Jct.
e Stops to take passengers only.
f Stops only on signal or on notice to the conductor.
g Stops only to leave passengers.
h Stops only to take passengers for Greenfield or beyond.
k Stops only to take passengers for Windsor, Vt. and beyond.
x Sleeping car handled from Springfield to New York on train 55; schedule shown in next column.
⊠ Stops of outbound trains at 125th Street Station, New York, are only to take passengers; inbound trains only to leave passengers.

9-26 48—39

A page from the New Haven's general timetable folder. The same type set-up is used to print the separate Connecticut River Line leaflet, and a table of fares is included in the latter. Distinctive aspects are the train number identification, the indentation of branch-line points, and the identification of connecting railroads. The type size is reduced about one-eighth in this reproduction

By JOHN S. GALLAGHER, JR.
Traffic Analyst, New York, New Haven & Hartford

timetable and supplementary local timetable leaflets. The problem was the subject of a research project entrusted to an employee familiar with the railroad and its operations and trained in the graphic arts.

Six principal factors affecting the legibility of a timetable were determined:

(1) The design of the type.
(2) The size of the type.
(3) The amount of open space around each numeral or group of numerals.
(4) The intensity or depth of color of the ink used, particularly when contrasted with the color of the paper.
(5) The paper (color and finish).
(6) Printing quality (the care used in make-ready).

Based on the establishment of these facts, it was apparent that the five-point expanded type face which had been used for years, while of a clean design, was too small. Type faces of all kinds were studied in an effort to select one which would be most suitable both from the standpoint of legibility and ease in handling in the printer's composing room. With the assistance of Sol Hess, internationally famous type designer, Stymie 190 and 690 — a modified modern face with unusually clear numerals — was selected. This type has both the light and bold face characters on a type body of exactly the same width, a factor of importance in keeping printing costs down.

Several ink manufacturers were consulted in a search for an ink which would make each character stand out in sharp contrast to the paper on which it is printed. Continued tests revealed that an intense black—i.e., 60 per cent bronze blue and 40 per cent half-tone black—gave the most satisfactory results. Although this ink was more expensive than that formerly used, its coverage was so much greater that the actual ink cost per thousand timetables increased only slightly. The paper used in the New Haven's timetables has been made by the same manufacturer for many years. With his cooperation, it was possible to obtain a low cost paper with a good finish and color.

These improvements—new type, new ink, improved paper—combined to simplify the make-ready of the press forms and made neater printing possible.

What Makes Timetables Puzzling?

Here are some of the things that make timetables hard to read:

(1) The presentation of the material in each schedule column is not orderly and simple.
(2) Complicated references divert the chain of thought of the uninitiated reader, and often cause him to lose his place. The average reader has difficulty memorizing shapes and symbols long enough to locate their explanation. Simple, familiar symbols and letters of the alphabet prove easiest for most readers.
(3) The intermingling of "off-line" stations (points on connecting or diverging lines) with "on-line" stations without clear differentiation serves to confuse.
(4) The average traveler does not use timetables enough to develop the knack of using "read up" tables.
(5) It is often difficult to determine where the run of one train ends, and another begins. The traveler wants simple answers to the questions: "Must I change trains?" and "If I must change, *where* do I change?"

With these difficulties in mind, the New Haven set about making timetables easier reading. The material in each schedule column was reduced to the simple essentials. That which had to be retained was clearly identified and arranged in simple, consistent order. Wherever possible, references were eliminated. Those which had to be used were converted from symbols to letters of the alphabet. Train numbers on the main lines, branches and connections were clearly identified. Where changes of trains were involved, "change trains" was printed in the schedule column at the point where the change was required. The practice of listing junction points in bold type, regardless of their geographical location or importance, was discontinued in favor of using bold type to indicate the relative importance of the station. Points located off the line of the table on branch or feeder lines were indented and the nature of the connection indicated.

To eliminate confusion between table numbers and page numbers, page numbers were eliminated and everything in the folder given a table number. The table numbers were made larger and given a more prominent setting to emphasize their arrangement and facilitate their location. The information page was restyled, personalized, and brightened by the use of small illustrations.

Printing Costs Reduced

At the time the project was started, the New Haven was issuing a 48-page general folder (with a black and white self-cover), and 20 separate local leaflets. This involved editing and maintaining 77 different type forms. The leaflets were of different sizes—some very difficult to handle. They were set in three different sizes of type, which fact caused extra work at the printing plant at the time of each change.

It was decided to reduce the number of local forms from 20 to 13, and to standardize on one "vest pocket" size (2¾ in. by 4½ in.). Wherever possible these leaflets were designed to be printed from the same type as the general folder. In this way it was possible to reduce the number of schedule type forms maintained from 77 to 52. This reduced the total net cost of all timetables enough to offset the increased cost of the new system folder and its colored cover, even though the cost of some individual leaflets was increased slightly. The new leaflets were made more attractive and more useful by the inclusion of maps and fare tables so as to stimulate their distribution at on-line stations and to reduce demand for the general folder.

Change in the basic timetable design and distribution was not done all at once, but gradually instituted over a period of years. Still further improvements are contemplated. However, the results of the changes made thus far are indicative. Although the number of passengers handled in 1948 was about 54 per cent over the average handled in 1939-1940, the number of timetable leaflets distributed has increased about 35 per cent, while the distribution of the general folders has decreased about 30 per cent in spite of large increases in off-line distribution. Total timetable costs have increased only 38 per cent over the 1939-1940 average, in spite of the substantial increases in paper and printing costs.

JAMES G. LYNE ELECTED PRESIDENT OF SIMMONS-BOARDMAN

James G. Lyne

James G. Lyne was elected president of the Simmons-Boardman Publishing Corporation at a meeting of the directors on February 14, succeeding in that position Samuel O. Dunn, who was both chairman of the board and president and who was re-elected chairman and chief executive officer. Mr. Dunn said in announcing the change:

"Mr. Lyne's advancement to the presidency of the Simmons-Boardman Publishing Corporation follows his advancement step by step in the company's organization almost from the day when he first became connected with it. He was employed by Roy V. Wright, managing editor of *Railway Age*, as a very young associate editor in 1920. I very soon began to believe that he had an unusual combination of qualities that inevitably would win success for him. The quality that impressed me most was a good sense and sound judgment that were extraordinary in so young a man. Among other things he had, in addition to great industry, a taste for study, very unusual ability as a writer and editor and a most friendly and engaging personality.

"It is the simple truth that years ago I anticipated he would succeed me in the position I then held as editor-in-chief of our company's publications; and that later, after I became chairman and chief executive officer, I began to foresee that he would rise to a high position as an executive officer of the company. This occurred a year ago when he was elected executive vice-president, after already having been made co-editor of *Railway Age* and placed in charge of the editing of all the company's transportation publications.

"The Simmons-Boardman Publishing Corporation is the leading publisher of business publications in three fields—railway, building and marine. In the railway field it has one weekly paper, *Railway Age*, three monthly papers—Railway Mechanical Engineer, Railway Engineering and Maintenance, and Railway Signaling and Communications—and three cyclopedias, one of which is issued each year—Locomotive Cyclopedia, Car Builders' Cyclopedia and Railway Engineering and Maintenance Cyclopedia. In the building field it has American Builder, a monthly magazine, which is much the largest and most successful publication in that field. In the marine field it has Marine Engineering and Shipping Review, which is issued monthly, and the Marine Catalogue and Buyers' Guide, which is now issued biennially.

"In the immediate future Mr. Lyne will devote himself chiefly to the editing and management of the transportation publications with the able assistance of S. Wayne Hickey, who was made vice-president in charge of sales of these publications last August. Robert H. Morris, who was made publishing director of American Builder, in charge of all departments about a year ago, will continue in that capacity. The promotion of Mr. Lyne to the presidency and other changes in the organization of the company have the obvious purpose of transferring its management as rapidly as practicable to younger and stronger hands, although, after my connection with it for forty-two years, I will continue to serve it as long as I am able and in every way that my younger associates desire."

Mr. Lyne was born in St. Louis, Mo., on July 10, 1898, and spent his early years in Slater, Mo., and Herington, Kan. He was graduated from the University of Kansas with an A.B. degree in 1920, and holds a degree of doctor of philosophy from New York University (1946).

Between 1914 and 1920, he worked at various times and in various minor capacities in the operating, engineering and mechanical departments of the Chicago, Rock Island & Pacific at Herington and Armourdale, Kan.; served briefly in the Army during World War I, and spent some time during 1919 and 1920 as a special agent for the Bureau of Labor Statistics in Washington, D. C.

Following his graduation from the University of Kansas he became, for a brief period, a reporter on the New York Daily News, and in October, 1920, joined the editorial staff of *Railway Age*. He was appointed financial editor in 1928, assistant to editor in 1938, and co-editor—in which capacity he has since served jointly with Mr. Dunn—in October, 1947.

In addition to his editorial duties, Mr. Lyne was elected a vice-president and director of the Simmons-Boardman Publishing Corporation in 1943, assistant to chairman in November, 1946, and executive vice-president in February, 1948.

He is a member of the executive committee of the New York Railroad Club; a member and past president of the New York Conference of Business Paper Editors; a member and, since 1938, secretary and treasurer of the National Conference of Business Paper Editors; a member, since 1946, of the executive committee of the Associated Business Papers; and a member of the Harriman Safety Award Committee. He is also the author of a number of magazine and newspaper articles on transportation subjects, and of a thesis, "The Need of the Railways for Additional Fixed-Plant Capital and Possible Means of Its Attainment," which was reviewed in the *Railway Age* of September 18, 1948, by Dr. C. S. Duncan, economist for the Association of American Railroads.

GENERAL NEWS

Railroads Can't Continue On "Rainy-Day" Basis

Must have "sunshade business" too, Baldwin tells Maine bankers

The public must start using railroads as a sunshade as well as for an umbrella for transportation problems, if good railroad passenger and freight service is to continue, members of the Maine Savings Bank Forum were told at Portland, Me., on February 8 by Herbert L. Baldwin, assistant vice-president of the New York, New Haven & Hartford.

"There must be a further public awakening," Mr. Baldwin said, "to the uncontroverted fact that economic prosperity . . .is dependent, in major measure, on the service and prosperity of railroads. Altogether too many of the regularly traveling public, as well as those who make infrequent trips, look upon the railroads as something for a rainy day."

"Similarly," he continued, "a symptomatic number of shippers and receivers of freight have apparently failed to realize that the long-range solution of their transportation problems and costs, and the maintenance of good, reliable, all-weather transportation is something in which they and the railroads have a common stake. Permanent prosperity for both cannot be accomplished by assigning to the railroads the carriage of only those things which are difficult to handle or which cannot be moved by other forms of transportation, and moving in other manners the easy-to-handle and preferred commodities on which shippers are offered a 'pick and choose' lowered rate. This is but a temporary makeshift which can never benefit either the shipper or his necessary railroad service in the long run.

"Railroads have spent millions of dollars to purchase modern locomotives, luxurious cars and other improvements for comfort and safety. Schedules have been speeded up. Day in and day out conveniently-scheduled fast trains move between the country's largest cities. For all this the public clamored and said they wanted to ride.

The Traveling Public's Umbrella

"They do ride, in large numbers, often more than regular capacity, every day when the weather is bad or highways are choked with snow or covered with ice. Railroads have become the traveling public's umbrella—lovely to have around for a rainy day.

"But with constantly mounting payrolls for wages to men who run these trains every day in the year; an apparently ever-mounting cost for materials to operate them and to maintain safety on the tracks over which they move, the railroads can't depend on rainy-day receipts. We've got to have some of the 'sunshade business.' Frequency of train service can't be kept just for rainy days.

"Each time some train is losing money on every trip, and the railroad seeks from some regulatory body permission to remove the service which the public has deserted, the clamor for its continuance is almost as if with one voice. Communities arise and band together and often hundreds who haven't used the service for years acclaim it as a public necessity.

"Rail management is denounced and continuance of the service is demanded even at an out-of-pocket loss. Little concern is expressed as to the economics of the situation or the fact that privately owned and operated railroads are the only form of transportation which does not get some sort of hand-out from the public purse in the form of often-heavy governmental subsidy.

"A bank couldn't stay in business unless it made some money for its depositors. A department store couldn't keep its doors open unless it showed a profit over the cost of its buying and selling. No manufacturing establishment could keep meeting its payrolls and keep people employed unless it can sell its products for more than it costs to produce them. And none of these could operate on a rainy-day sales basis.

Railroads No Different

"A railroad is no different than any other business. It can't continue for long to pay out more than it takes in. And railroads have just one commodity to sell—transportation of people and goods.

"There are those, some of them in high places, who would like to see the government take over the railroads. The rails would be a juicy plum for those who would like to see complete socialization of all the private-enterprise system. Collectivism of the railroad industry would be a perfect stepping stone for furthering those desires which are contrary to the wishes of a vast majority of Americans.

"Railroad managements have been—and are—extremely active in their efforts to provide better and more convenient service . . . in more efficient and less costly ways. But all the economies management has made, or will make, will be more than discounted if the public does not provide the railroads with the share of the over-all passenger and freight business which they must have to make good rail service under private ownership possible.

"The railroads cannot continue to be a rainy-day umbrella and still maintain the standards of service which the public is offered today."

Burlington Celebrates 100th Year of Charter

$8½ million program announced as "anniversary gift" to commuters

An historic pageant tracing the developments which were climaxed by the signing of a charter authorizing construction of the Aurora Branch Railroad—Chicago, Burlington & Quincy predecessor—100 years ago, was presented at the Paramount Theater at Aurora, Ill., on February 12. Distinguished guests, including a number of railroad presidents and directors, were brought to Aurora from Chicago in two of the vista dome cars which are to be assigned to the "California Zephyrs."

At a luncheon following the pageant, Ralph Budd, president of the road, said that there never was a time when there were so many opportunities for the railroads to effect improvements, but that they must have earnings for their accomplishment. The real question of the railroads' future, he said, lies in enlightened treatment by the people of this country in allowing the railroads to earn a fair return. "I know where $50 million can be spent very readily," Mr. Budd continued—speaking for the Burlington—"as soon as we can find the money."

"Commuter Zephyrs" in the Offing

In a surprise announcement, Mr. Budd revealed plans for an $8½ million program to Dieselize Burlington suburban service, provide 30 new stainless steel "gallery-type" coaches, and modernize the balance of the commutation equipment. Mr. Budd observed that railroads, in common with public utilities, have to provide service first, then hope that the people will pay for it. He expressed

the belief that the solution to the commutation problem "lies in providing the highest quality service, and then asking our patrons to make it self-supporting."

The 30 new suburban cars will be double-decked, each seating 93 passengers in double seats on the main floor, and 52 in single seats in galleries along each side—a total of 145 passengers. The cars will have double doors at the center, with adjacent stairways affording access to the galleries. The cars will be manufactured by the Budd Company and are scheduled for 1950 delivery.

Ten 2,000-hp. Diesel locomotives will be purchased from the Electro-Motive Division of General Motors Corporation to enlarge the C.B.&Q.'s pool of Diesel passenger power. It will then be possible to Dieselize about 80 per cent of the Chicago suburban service during the rush hour peak, and all of it during the mid-day. Delivery of the new Diesels is expected within a year. Modernization of 65 suburban coaches (announced in *Railway Age* of August 28, 1948, page 58) is already under way at the Burlington's Aurora shops.

Major Lenox R. Lohr, president of the Chicago Railroad Fair cited the importance of public relations to favorable treatment and fair legislation for the carriers, stating that "it is the job of the railroads to sell themselves to the public." Major Lohr likened the Railroad Fair to a commercial radio broadcast wherein the public is willing to listen to three min. of advertising to get 27 min. of entertainment.

Senate Group Would Make Transport Study

Other proposals before Congress include through-routes bills

Investigation by the Senate committee on interstate and foreign commerce of "all domestic land and water transportation" is proposed in a resolution which has been approved by that committee and is now before the Senate committee on rules and administration. Clearance by the latter and passage by the Senate is required before the resolution becomes effective.

It is Senate Resolution 62, introduced by two members of the interstate commerce committee—Senators Reed, Republican of Kansas, and Myers, Democrat of Pennsylvania. Other like resolutions, also approved by the committee, would authorize it to investigate the "financial condition of the air-line industry," and the "Panama Canal and interoceanic canals generally."

Under the Reed-Myers resolution, the committee's investigation of land and water transportation would be for the purpose of determining "whether existing conditions conform to the national transportation policy"; and the "effect of large expenditures of public moneys and private capital upon transportation charges and to what extent such expenditures are reflected in costs of production and prices to consumers." The committee would be further authorized to consider and make legislative recommendations with respect to "all other matters and things necessary in its judgment in meeting the purposes" of the specific studies called for.

Transport legislation proposed in bills recently introduced in Congress includes that which would remove all restrictions on the Interstate Commerce Commission's power to require railroads to join in through routes. The restrictions are now set out in the Interstate Commerce Act's section 15 (4), and that section would be repealed by the proposed legislation—S.792 and H.R. 2138, introduced in turn by Senator Johnson, Democrat of Colorado, and Representative Crosser, Democrat of Ohio, chairmen, respectively, of the Senate and House committees on interstate and foreign commerce.

A different approach to repeal of the Bulwinkle-Reed Act was made recently by Representative Celler, Democrat of New York, chairman of the House committee on judiciary. Mr. Celler's bill is H.R. 2167. It would amend the Sherman Anti-Trust Act to provide that paragraph (9) of the Interstate Commerce Act's section 5a (which is comprised of the Bulwinkle-Reed Act's provisions) shall not have the effect of relieving participants in rate-procedures agreements from the operation of the anti-trust laws.

Passed recently by the House and now sending before the Senate is H.R. 2361, which would give President Truman broad authority to reorganize departments and agencies of the federal government. The House-approved bill would require special procedures with respect to the reorganization of several agencies, including the Interstate Commerce Commission, Railroad Retirement Board, National Mediation Board, and National Railroad Adjustment Board; but it includes no outright exemption for any agency, as did similar previous legislation which was in effect for temporary periods in the past. The present bill merely requires that any Presidential proposal to change the set-up of an agency on the special-procedures list shall not be grouped with any other proposal, but shall be submitted to Congress as a separate proposition.

Additional resolutions to approve the United States-Canadian agreement for development of the proposed St. Lawrence seaway and power project were introduced in the House on February 15. They are H. J. Res. 161, sponsored by Representative Blatnik, Democrat of Minnesota, and H. J. Res. 162, sponsored by Representative Biemiller, Democrat of Wisconsin. A like resolution, H. J. Res. 110, was introduced earlier by Representative O'Brien, Democrat of Michigan. Other recently introduced bills, together with their sponsors, include the following:

INTRODUCED IN HOUSE OF REPRESENTATIVES

H.R.1709, to amend the Interstate Commerce Act so as to provide limitations on the time within which actions may be brought for the recovery of undercharges and overcharges by or against common carriers by motor vehicle, common carriers by water, and freight forwarders (Crosser of Ohio).

H.R.1827, to clarify and formulate a consistent and coordinated national policy with respect to transportation costs in interstate commerce . . . and to promote competition by permitting sellers to have access to distant markets (Dolliver of Iowa).

H.R.1895, to repeal the tax on transportation (Dolliver of Iowa).

H.R.2040, to prohibit any carrier subject to Part I of the Interstate Commerce Act, in transporting property between two points, from making a difference in its charges depending on the point of origin or destination (Rankin of Mississippi).

H.R.2146, to amend the Railroad Retirement Act so as to provide full annuities, at compensation of half salary or wages based on the five highest years of earnings, for individuals who have completed 30 years of service or have attained the age of 60 (Marcantonio of New York).

H.R.2222, to provide a 2-year moratorium with respect to the application of certain anti-trust laws to individual, good faith delivered price systems and freight absorption practices (Walter of Pennsylvania).

H.R.2339, providing for the construction of a railroad connecting with the existing railroad system serving the United States and Canada and terminating at Prince George, B. C., Can., with the railroad system serving Alaska and terminating at Fairbanks, Alaska (Tollefson of Washington).

H.R.2543, to repeal the tax on transportation of persons and the tax on transportation of property (Doyle of California).

H.R.2552, to amend the Railroad Retirement Act to provide that pensioners be paid a minimum pension of $50 per month (Hale of Maine).

FARICY CITES RAILROAD SAFETY RECORDS OF 1948

The best passenger safety record in 12 years, and the best employee fatality record in the 50 years in which records have been kept, were made by the nation's railroads in 1948, according to William T. Faricy, president of the Association of American Railroad.

Mr. Faricy said in a February 13 statement that fatalities to railroad passengers as a result of collisions, derailments and other train accidents last year numbered only one to each 2,166,000,000 passenger-miles traveled, and passenger fatalities from all causes were only one to each 980,000,000 miles traveled. Although the railroads performed an estimated 41,150,-000,000 pasenger-miles of service in 1948, there were but 19 passenger fatalities resulting from train accidents and only 42 fatalities from all causes, the A.A.R. president declared.

The fatality rate for railroad employees in 1948, Mr. Faricy added, was 0.17 per million man-hours worked, the lowest for any year on record. The 1948 passenger fatality rate of 0.1 for each 100,000,000 passenger-miles from all causes, Mr. Faricy stated, represents a decrease of 28 per cent under 1947, and compares favorably with averages during the depression period of the 1930's when passenger traffic was less than half what it was in 1948.

H.R.2652, to require the use of the Vaughn record of watch comparison by persons subject to the Interstate Commerce Act (Jones of North Carolina).

H.R.2741, to amend the Railroad Retirement Act so as to provide a 20 per cent increase in survivor benefits to widows, children, and parents (Preston of Georgia).

INTRODUCED IN SENATE

S.636, to amend the Civil Aeronautics Act to provide for the regulation of non-certificated air carriers and contract air carriers (McCarran of Nevada).

S.643, to amend the Internal Revenue Code so as to exclude from the tax on transportation of persons amounts paid for transportation to places outside the continental limits of the United States (O'Conor of Maryland).

S.740, providing for the construction of a railroad connecting the U. S. and Canadian system with the Alaska system (Magnuson of Washington, for himself and Butler of Nebraska).

S.822, to repeal the tax on transportation of persons and the tax on transportation of property (Brewster of Maine).

S.852, to amend the Interstate Commerce Act so as to prohibit the segregation of passengers on account of race or color (Magnuson of Washington).

1948 Truck Traffic

The truckloading index compiled by American Trucking Associations "reached an all-time high during 1948, climbing to 230 as compared with a 1947 index of 206," the A.T.A. has announced. The index is based on the 1938-40 average monthly tonnage of the truckers reporting to A.T.A.

In December, 1948, the reporting carriers transported a total of 2,572,410 tons of freight, a decrease of 2 per cent below the 2,626,142 tons transported in November, 1948, but an increase of 5.9 per cent above the 2,430,189 tons hauled in December, 1947. The index number for December, 1948, was 228 as compared with November's 238. The December figures, according to A.T.A., are based on comparable reports from 271 truckers in 42 states.

Supreme Court Decisions

The United States Supreme Court in a recent decision affirmed a New York Court of Appeals ruling which upheld the conviction of the Railway Express Agency for violation of a New York City traffic regulation that had been construed as prohibiting leasing of space on express trucks for display of posters carrying advertising other than that of the Express Agency itself. The regulation was promulgated by the New York City police commissioner on the theory that it would be a measure of relief from traffic congestion.

The Supreme Court's opinion discussed, among other things, R.E.A.'s contention that the regulation violated the "equal protection" clause of the Constitution in that it drew a line between advertisements of products sold by the owner of the truck and general advertisements. "The local authorities," the court said, "may well have concluded that those who advertise their own wares on their trucks do not present the same traffic problem in view of the nature and extent of the advertising which they use. It would take a degree of omniscience which we lack to say that such is not the case. If that judgment is correct, the advertising displays that are exempt have less incidence on traffic than those of appellants."

By other recent decisions the court sent back to Utah courts, for submission to juries, two cases involving in turn the injury of a railroad employee and the death of another. At the original trials in both cases, the judges had directed the juries to return verdicts for the railroads; and those determinations had been upheld by the Supreme Court of Utah.

One of the cases, docketed in the Supreme Court as No. 53, involved a suit under the Federal Employers Liability Act against the Denver & Rio Grande Western by one of its switchmen, Clyde Wilkerson. He was injured when he fell into a wheel pit from its walkway, consisting of a plank, which was alleged to have become greasy and slippery. In refusing to submit the case to the jury, the trial judge held that there was no reasonable ground for finding of negligence against the railroad. The Supreme Court's ruling in the case was by a 7-to-2 vote, but there were five separate opinions. The opinion of the court was delivered by Justice Black; concurring expressions came from Justice Douglas and Justice Frankfurter, and dissents from Chief Justice Vinson and Justice Jackson.

The case involving the death of a railroad employee was docketed as No. 54. It was a suit against the Southern Pacific on which the decedent, William Frank Lucus, was employed as a signalman. His death occurred when a motor car on which he was riding crashed into a freight train that stopped unexpectedly, its brakes having become applied when a nut became disconnected from a brake-line valve on which the threads were worn. The suit was brought under the Federal Safety Appliance Act and the Federal Employers Liability Act, reliance on the former being based on a contention that the train had stopped because of the railroad's violation of that act.

The evidence indicated that the decedent, who was in control of the motor car, did not apply its brakes, which would have stopped the car short of the train. In directing a verdict in favor of the railroad, the trial judge held that the evidence failed to show that the defective appliance was the "legal" cause of the crash and the decedent's death. This holding was upheld by the Supreme Court of Utah. The U. S. Supreme Court's opinion held that the administrator of the decedent's estate was entitled to recover if the defective equipment was the sole or a contributory proximate cause of the death; and that this was a question for the jury.

GRAND CENTRAL TOPS NEW YORK PROPERTY VALUATION LIST

The New York Central's Grand Central terminal—not the Empire State building—is the most heavily assessed property in New York City. The station alone, exclusive of office buildings and related facilities, is valued for 1949-1950 tax purposes at $36,000,000, of which $23,600,000 represents land value.

The Empire State building, generally considered the most valuable property in the city, is assessed at $34,500,000—$1,500,000 less. The Pennsylvania station is listed at $28,840,000.

Restoration of Investor Confidence Essential, Canadian Witnesses Say

Net earnings of the Canadian Pacific must be increased to restore that company's credit, according to testimony presented to the Canadian Board of Transport Commissioners at Ottawa, Ont., by L. B. Unwin, C.P.R. vice-president, finance, and A. Northey Jones of the New York investment banking firm of Morgan Stanley & Co., when hearings were resumed last week on the application of Canadian railroads for a 20 per cent increase in freight rates.

Mr. Unwin stated that financing of the Canadian Pacific's $90-million-a-year improvement program for 1950-1954 would require raising over $52 million a year through sale of new capital stock and fixed-interest securities, and that the company's credit position would have to be improved to make such sale possible. Mr. Jones, pointing to the decline in recent years in investor confidence in railway stocks, and the fact that the C. P. R. could not sell its ordinary stock on the basis of its present earnings, declared that steps to restore investor confidence were necessary for the welfare of transportation systems in both Canada and the United States.

P. & W. V. Establishes Employees Publication

Issuance in January of volume 1, number 1, of "Hi-Line" added the Pittsburgh & West Virginia to the list of railroads which sponsor regular monthly publications for distribution to employees. The new P. & W. V. publication is prepared under the general direction of M. E. Mayes, superintendent of personnel. An introductory message from Charles J. Graham, president of the road, featured the first issue.

42 Passengers Killed in 1948 Train and Train-Service Accidents

Train and train-service accidents in 1948 resulted in the deaths of 42 passengers, as compared with 65 deaths in like 1947 accidents, according to the preliminary summary compiled by the Bureau of Transport Economics and Statistics of the Interstate Commerce

Commission. Fatalities in last year's railroad accidents of all kinds totaled 3,774 as compared with 4,165 in 1947. The bureau's compilation, which is subject to revision, follows:

Item	Month of December 1948	Month of December 1947	12 months ended with December 1948	12 months ended with December 1947
Number of train accidents*	947	1,460	11,887	16,816
Number of casualties in train, train-service and nontrain accidents:				
Trespassers:				
Killed	108	89	1,378	1,400
Injured	75	72	1,122	1,179
Passengers on trains:				
(a) In train-service accidents				
Killed	—	1	19	34
Injured ...	43	157	944	1,279
(b) In train-service accidents				
Killed	1	4	23	31
Injured ...	172	270	2,580	2,877
Travelers not on trains:				
Killed	4	1	12	10
Injured	95	136	1,014	990
Employees on duty:				
Killed	56	75	566	709
Injured	2,492	3,033	30,853	35,732
All other nontrespassers:**				
Killed	204	186	1,776	1,981
Injured	742	729	6,555	6,740
Total—All classes of persons:				
Killed	373	356	3,774	4,165
Injured	3,619	4,397	43,068	48,797

* Train accidents (mostly collisions and derailments) are distinguished from train-service accidents by the fact that the former caused damage of more than $150 to railway property in 1947. Beginning January 1, 1948, this minimum was raised to more than $250. Only a minor part of the total accidents result in casualties to persons.

**Casualties to "Other nontrespassers" happen chiefly at highway grade crossings. Total highway grade-crossing casualties *for all classes of persons, including both trespassers and nontrespassers,* were as follows:

Persons:				
Killed	190	182	1,608	1,790
Injured	547	501	4,246	4,251

Faricy Urges Single Regulatory Agency

All agencies engaged in public service transportation should be regulated by a single agency, William T. Faricy, president of the Association of American Railroads, said in an address before the New England Railroad Club in Boston, Mass., on February 15. Where more than one agency regulates, he added, there is sure to develop a kind of jealous competition in regulation, to the confusion and detriment of all agencies. This is especially true when one regulatory body is specifically charged with promotional functions.

Contending that "an over-all comprehensive picture cannot be secured so long as attention is focussed only on one segment," Mr. Faricy asked: "Should there not be provisions in the Interstate Commerce Act that would permit any type of agency to engage in operating any other under proper supervision and without destruction of competition, wherever a better coordinated service can be afforded? Should not an agency be permitted to enter into another field upon the same terms and conditions as those applied to applicants that are not carriers in another field? Is it either fair or wise for another government agency to appear before the Interstate Commerce Commission and take sides in any case not involving the government as a shipper?"

The A.A.R. president held that exemptions in some provisions of the act are so broad they permit such a volume of traffic to move unregulated as to interfere with regulation itself. As a result, he continued, "the regulated carriers do not have a fair chance against the unregulated. The rise of the exempt and private carrier is making regulation of common carriers more and more difficult. There are differences in the rules and terms between types of carriers subject to the same act. There is need for modification here also. Streamlining our regulatory law, we believe, will aid the Interstate Commerce Commission in its work, will relieve it of many cases."

"The objective and intent of sound regulation are the development and preservation of a national system of transportation, composed of various agencies, capable of furnishing with reliability, dependability and flexibility, at all seasons, in peacetime and war, a general common carrier service for passengers and property at the lowest aggregate cost," Mr. Faricy concluded. "Given its chance through intelligent regulation to serve the country better, to operate in a 'friendly atmosphere,' the railroad industry will respond and do its part to help make the American dream of today become the reality of tomorrow."

R. I. CONDUCTOR AND HIS CABOOSE GET "ROCKING CHAIR" TOGETHER.—James P. Bullard, a Chicago, Rock Island & Pacific freight train conductor and "skipper" of caboose No. 18058, retired amid special ceremonies at the St. Louis, Mo., Union station early in January. Sharing honors with Mr. Bullard was his "get the business" caboose, which he had ridden for 23 years and which also went into "retirement" at the St. Louis Museum of Transport. The ceremonies marked one of the few times that service has ended simultaneously for a conductor and the caboose on which he worked. Mr. Bullard, a native of Eldon, Mo., organized the Rock Island's first "get the business" committee in November, 1926, for the purpose of persuading more shippers to use the road's service. With a typewriter tied down to a pine board, caboose No. 18058 became headquarters for him and his crew and continued as such until Mr. Bullard's retirement after 50 years of railroad service

Pennsylvania to Dieselize Grand Rapids Division

Complete Dieselization of the Pennsylvania's Grand Rapids division, at a cost of approximately $4 million, will be effected upon delivery of seven more locomotives within the next few weeks. These additional Diesels, together with 16 already assigned to the division, will replace 37 coal-burning steam locomotives.

This equipment, totaling more than 33,000 hp., consists of the following locomotives:

1....4,000-hp. passenger
2....2,000-hp. passenger
3....3,000-hp. road freight
2....2,000-hp. local freight
6....1,000-hp. local freight
3....1,000-hp. switching
5.... 600-hp. switching
1.... 380-hp. switching

The Grand Rapids division extends northward from Fort Wayne, Ind., to Mackinaw City, Mich., 366 mi., and includes branches between Grand Rapids, Mich., and Muskegon, 38 mi.; Walton Junction and Traverse City, 26 mi.; Kegomic and Harbor Springs, 5.6 mi., and Missaukee Junction and Falmouth, 19.9 mi.

The program of completely Dieselizing the division includes installation of fueling stations with underground storage tanks at Grand Rapids and Cadillac, the former with 180,000 gal. capacity and the latter with 20,000. Refueling at other points where switching locomotives are in service will be done by tank truck.

The enginehouse at Grand Rapids will be rebuilt as a Diesel shop and will handle progressive maintenance on all the division's locomotives. Light maintenance will be done at Kalamazoo, Cadillac, Muskegon and Petosky.

In discussing the conversion to all-Diesel operation, vice-president P. E. Feucht stated that the road hoped it would permit "at least a small return on our large investment in equipment and property [on the Grand Rapids division], which we are not now realizing."

Car Temperature Control Tested on North Western

An "Electronic Moduflow" system of temperature control was demonstrated on a Chicago & North Western passenger car on a run on that road and the Union Pacific from Chicago to Los Angeles, Cal., starting on February 15.

The system, completely automatic, uses hot water radiators and Wheatstone bridge type thermostats without moving parts. Developed by the Minneapolis-Honeywell Regulator Company, Minneapolis, Minn., it is an offspring of the electronic control system the com-

pany worked out for the Army Air Forces during World War II.

Special equipment was installed to maintain a continuous check on temperature readings. Representatives of several railroads were invited to participate in the demonstration.

Justice Department Raps Bulwinkle-Act Agreements

Approval by the Interstate Commerce Commission of the rate-procedures agreements filed by western and eastern railroads is opposed by the Department of Justice on the basis of allegations, among others, that the proposed pacts would be part of an "integrated mechanism," which is seeking "legal sanction and immunity for an existing private government of the railroad industry so far as traffic matters are concerned, under the centralized direction and control of the Association of American Railroads." The railroad applications for approval of the agreements were filed under the Interstate Commerce Act's section 5a, added last year by the Bulwinkle-Reed Act.

The Justice Department's protest was set out in a detailed statement filed in the proceedings involving the applications of the eastern and western roads; but it also addressed itself to similar applications filed by southern roads and by railroad parties to the car-hire, demurrage and storage rules administered through the A.A.R. Each of these applications "is merely a single step toward the consummation of a common scheme or design and is a single integral part of a unified plan or structure," the department charged. It followed through along that line to ask the commission to consolidate the proceedings with respect to all four applications for the holding of a single hearing and for "all purposes." The commission has already assigned the applications of the western and southern roads for separate hearings, which will be held, respectively, at Washington, D. C., on April 6 and at Montgomery, Ala., on March 28 (see *Railway Age* February 12, page 61).

In support of its allegation that the separate agreements are parts of a "common scheme," the Justice Department argued that they would build a structure embodying "substantially the same mechanisms for the collective private control of rate-making" which the government is assailing in its pending anti-trust complaint against the A.A.R. and western roads—the so-called Lincoln case. The protest went on to assert that the territorial organizations in the past have been "integrated vertically" with the A.A.R.; and that it is "shown" by the A.A.R. plan of organization that "this integration of rate-making controls on a national scale is to be continued under the instant agreements."

Other contentions of the department were that the proposed agreements are not in furtherance of the national transportation policy; that the commission "cannot properly find that relief from the anti-trust laws should apply with respect to such agreements"; and that the commission "is without jurisdiction, power, or authority" to approve the agreements because they do not accord to each party "the free and unrestrained right to take independent action."

In the latter connection, the department recognized that the agreements contain specific provisions reserving to each party the right of independent action; but it called such provisions an attempt "to preserve the appearance of independence." It added that "this ostensible reservation of independence of action is but a legal formality completely lacking in substance." An earlier discussion of the western and eastern agreements' provisions had asserted that "denial of independence of action is necessarily inherent under an agreement which, as here, organizes a system of rate-making mechanisms integrated horizontally and vertically in such fashion as ultimately to array the entire industry against the carrier which seeks to exercise its theoretical right of independence of action."

Engineers Modify Request For Additional Diesel Engineer

C. D. O'Brien, counsel for the Brotherhood of Locomotive Engineers, stated on February 9, before the emergency board which is investigating the dispute between that organization and 69 carriers over the union's request for an additional engineman on Diesel locomotives, that he had been authorized to modify their request as follows: "It will not be necessary to employ an additional engineer in the engine rooms of any Diesel-electric locomotive (whether single unit or multiple unit) providing the carrier does not require any person to give attention to the engine room machinery while the locomotive is in motion." Mr. O'Brien said the modification came about as a result of a meeting of the general chairmen in Chicago on February 8, and that it was calculated "to terminate beyond cavil or equivocation the charges of 'make-work' and 'featherbedding'."

George W. Taylor, chairman of the emergency board, asked Mr. O'Brien if this action contemplated the exclusion of shopcraft employees from the engine room, and was informed by J. P. Shields, first assistant grand chief engineer, B. of L.E., that the modification implied exclusion of *any* employees from the engine rooms while the locomotives are in motion.

In testimony intended to outline the historical development of the responsibilities and duties of the locomotive engineman and the traditional demarcation between the duties of the engineman and those of the fireman, Mr. Shields stated that the engineman of the Diesel locomotive was "a prisoner to the 'dead-man' pedal" and by reason of these circumstances the fireman had come to be used to perform engine room functions which the enginemen feel are properly their own.

Chairman Taylor said on February 11 that it had been mutually agreed upon by counsel of both parties to the dispute that an extension of 45 days beyond the present February 27 deadline be sought for the board to consider and report on the case.

The board recessed on February 12 and the members took short engine-cab rides on a hand-fired steam passenger train, a two-unit Diesel powering a through passenger train, a three-unit Diesel on the head end of a through freight train, and a stoker-fired steam locomotive on a through freight, to assess the relative importance of engineers' duties thereon.

President Truman issued a February 15 executive order which has the effect of giving the emergency board in the enginemen's case the additional duty of investigating the like dispute involving the demand of the Brotherhood of Locomotive Firemen and Enginemen for an additional fireman on Diesel-electrics. As noted in the *Railway Age* of February 12, page 60, the board refused to permit the B. of L.F. and E. to become an intervening party to the enginemen's case. The President's February 15 order created a separate board to hear the B. of L.F. and E. case, but it named as members of that board the three individuals who are also members of the board in the enginemen's case—George W. Taylor, Grady Lewis, and George F. Osborne.

Johnson Confirmed for I.C.C.; Retirement Rule Waived Again

The Senate on February 14 confirmed President Truman's reappointment of Colonel J. Monroe Johnson to the Interstate Commerce Commission for a new term ending December 31, 1955. An unanimous report recommending confirmation had come to the Senate from its committee on interstate and foreign commerce on February 10.

The report was adopted by the committee on February 9 in an executive session which followed a public hearing at which the National Negro Council urged that the nomination be held up until assurances were given that the commission would do something about what the council alleged to be discrimination against Negro passengers on railroads (see *Railway Age* of February 12, page 57). Colonel Johnson, who is also director of the Office of Defense Transportation, has been a member of the commission since May, 1940.

President Truman paved the way for the colonel's continuance on the commission by issuing a February 11 executive order which extended the colonel's exemption from the civil service rule requiring government employees to retire when they reach the age of 70 years;

Colonel Johnson reached that age on May 5, 1948, and the President then issued an executive order exempting him from the retirement rule until he was reappointed to the commission or until his successor qualified. The Presidential order of February 11 extends the exemption "for an indefinite period of time not extending beyond the duration of a further term of office" as a member of the commission.

Extends Authority for Agreements To Allocate Scarce Materials

President Truman has approved legislation recently passed by Congress to extend until September 30 the President's authority to approve voluntary agreements by industries for allocation of materials in short supply. The agreements include that under which the steel industry has been allocating steel for maintenance and repair of freight cars and the construction of 10,000 new cars monthly.

Extension of the law, which had been scheduled to expire February 28, has the effect of extending the freight-car agreement to the law's new expiration date of September 30. This was provided under a recent arrangement whereby the agreement was to be extended beyond February 28 for six or seven months, the latter if the law were extended. The six-months' extension would have been permitted if the law had been allowed to expire February 28, since the law contained provisions which had been interpreted as authorizing extension of existing agreements for six months beyond that date.

The law was enacted originally late in 1947. It grants immunity from the anti-trust laws to participants in agreements approved by the President. The President has delegated his authority with respect to the steel-allocation agreements to the Department of Commerce, where it is administered by the department's Office of Industry Cooperation. The hearing held by O.I.C. on the extension of the freight-car agreement was reported in the *Railway Age* of December 18, 1948, page 64.

New Haven Puts N. Y.-Boston Trains on Faster Schedules

Faster schedules for 17 of the New York, New Haven & Hartford's shore line trains between New York and Boston, Mass., will become effective on March 1. The "Merchants Limited" will continue to leave both New York and South Station, Boston, at 5 p.m. Arrival, under the new schedule, will be four hours later, a reduction of 20 minutes. The "Yankee Clipper" will be speeded up 15 minutes to make the run in 4 hr. 15 min. Ten to 25 minutes will be cut from the running times of 15 other trains. The speedier service is made possible, according to J. Frank Doolan, vice-president, operating, maintenance and engineering, "by arrival of additional Diesel locomotives." The new schedules will make it possible, he added, to consolidate two trains in each direction.

The New Haven also has announced that its patrons now can secure confirmed reservations in any of nine New York hotels at its Boston ticket offices and at Western Union offices in Boston where New Haven tickets are regularly sold.

To reduce damage in l.c.l. shipments, Canadian National engineers have designed a flexible bulkhead that can be set up or removed in 15 minutes, yet which will securely anchor packages in sub-divisions within a freight car so they will not shift in transit. Stout cables are stretched along the side walls, attached to counter-sunk pinions. Bolted to these cables, wooden guides are vertically suspended from roof to floor at measured distances apart. When a section has been loaded, wooden cross bars are inserted into the guides to secure the packages. C.N.R. officials inspecting the arrangement are: left to right, P. H. Fox, chief of transportation; C. F. Allen, superintendent of station services and weighing; G. H. Hoganson, assistant engineer, research and development department and co-designer of the bulkhead, and S. W. Fairweather, vice-president of research and development. The bulkhead can be removed to permit bulk movements of grain and similar commodities, and sufficient choice of locations for the side-wall guides are available to provide for irregular loading

Design of First Dome Coach

In an article on the Burlington's centennial appearing in the issue of February 5, page 89, it was erroneously stated that conversion of a Zephyr coach into the first vista dome coach in the country was carried out jointly by the railroad and the Budd Company. The fact is that while the coach was originally built by the latter, its rebuilding into a dome car was designed and carried out by H. H. Urbach, presently general superintendent motive power, of the road, and E. L. Larson, engineer, car construction and maintenance.

Emergency Board on D. & R.G.W.

President Truman on February 14 issued an executive order creating an emergency board to investigate a dispute between the Denver & Rio Grande Western and those of its employees who are represented by the Switchmen's Union of North America. The dispute involves grievances which would normally be brought before the National Railroad Adjustment Board. The emergency board was created after the union had threatened to call its members out on strike at 8:00 a.m. on February 14.

Eastern Traffic Executive Association to Move May 1

The Traffic Executive Association—Eastern Railroads has rented the entire ninth floor at 1 Park avenue for its New York headquarters. The lease, effective May 1, involves over 35,000 sq. ft. of net usable space. For the past 55 years the association has had New York headquarters at 143 Liberty street.

Baxter Named Assistant Director Of I.C.C.'s Bureau of Traffic

Charles S. Baxter, former traffic manager for the Lockheed Aircraft Corporation at Burbank, Calif., has been appointed assistant director of the Interstate Commerce Commission's Bureau of Traffic. This was announced by the commission in a February 16 notice which said that the appointment had become effective February 7.

Mr. Baxter was formerly employed in the traffic department of the Louisville & Nashville at Montgomery, Ala., and in traffic work with the W. P. Brown & Sons Lumber Co. of Louisville, Ky., and the Republic Steel Corporation of Cleveland, Ohio. From 1943 to 1945, he served in the Traffic Division of the Army Air Force headquar-

ters at Washington, D. C., having the rank of major at the time of his discharge. Following this Army service, Mr. Baxter returned to the Republic Steel Corporation, remaining there until 1946 when he became Lockheed Aircraft's traffic manager, the position he was holding at the time of his present appointment to the commission's staff.

Freight Car Loadings

Loadings of revenue freight in the week ended February 12 totaled 699,442 cars, the Association of American Railroads announced on February 17. This was an increase of 17,299 cars, or 2.5 per cent, above the previous week, a decline of 34,428 cars, or 4.7 per cent, under the corresponding week last year, and a decrease of 100,535 cars, or 12.6 per cent under the equivalent 1947 week.

Loadings of revenue freight for the week ended February 5 totaled 682,143 cars, and the summary for that week as compiled by the Car Service Division, A.A.R., follows:

Revenue Freight Car Loadings

For the week ended Saturday,	District	1949	1948	February 5 1947
	Eastern	130,625	135,885	144,377
	Allegheny	149,472	152,035	163,453
	Pocahontas	57,938	62,696	63,880
	Southern	115,767	129,421	135,104
	Northwestern	71,858	83,095	72,622
	Central Western	105,928	121,703	123,856
	Southwestern	50,555	62,101	64,009
	Total Western Districts	228,341	266,899	260,487
	Total All Roads	682,143	746,936	767,301
	Commodities:			
	Grain and grain products	38,519	39,062	47,304
	Livestock	9,781	9,765	11,276
	Coal	155,155	174,673	176,348
	Coke	15,619	14,824	14,366
	Forest products	29,448	40,270	47,963
	Ore	11,375	10,878	11,295
	Merchandise l.c.l.	93,182	105,965	112,907
	Miscellaneous	329,064	351,499	345,842
	February 5	682,143	746,936	767,301
	January 29	679,255	726,345	835,051
	January 22	709,585	771,139	821,928
	January 15	733,272	808,308	828,060
	January 8	721,507	830,810	830,953
	Cumulative total 5 weeks	3,525,762	3,883,538	4,083,293

In Canada.—Carloadings for the week ended February 5 totaled 72,281 cars, as compared with 71,843 cars for the previous week, and 70,777 cars for the corresponding week last year, according to the compilation of the Dominion Bureau of Statistics.

	Revenue Cars Loaded	Total Cars Rec'd from Connections
Totals for Canada:		
February 5, 1949	72,281	32,836
February 7, 1948	70,777	34,432
Cumulative totals for Canada:		
February 5, 1949	358,403	160,538
February 7, 1948	366,342	171,250

Launches Probe of Fee For Reserved Coach Seats

The Interstate Commerce Commission has instituted, upon its own motion, an investigation of the special service charges for reserved coach seats which 12 railroads established on February 1. The investigation is docketed as No. 30171, and the order instituting it stated that the time and place of hearings would be announced later (see *Railway Age* of February 5, page 114).

Columbia-Type Locomotive—Correction

The caption accompanying a photograph of Locomotive No. 590 of the Chicago, Burlington & Quincy, in the issue of February 5, page 83, stated, "the only Columbia-type ever built;" it should have added, "for the Burlington." A number of locomotives of this type were built for other railroads.

K.C.S. Plans Passenger Service Improvements Beginning April 3

The postwar-built "Southern Belle" trains of the Kansas City Southern are scheduled to begin operation between Kansas City, Mo., and New Orleans, La., on April 3, reducing the present running time by 3 hr. 45 min. and providing connections at Shreveport, La., for Port Arthur, Tex., Beaumont, and Lake Charles, La. W. N. Deramus, president of the road, said that final delivery of equipment for the new trains will be made at the end of February and will be followed by a two-week exhibition tour of one of the streamliners.

Tentative schedules set up for the new "Southern Belles" call for departures from both New Orleans and Kansas City daily at 4 p.m., with arrival in the two cities at 10 a.m. the following morning. The road also plans schedule changes to reduce the running time of its "Flying Crow" between Kansas City and New Orleans by 2 hr. and 45 min.

The K.C.S. also contemplates addition of two new daily Kansas City-New Orleans trains, to be known as No. 9 (southbound) and No. 10 (northbound), and operated on substantially the present "Southern Belle" schedules. Commenting on the improvements, Mr. Deramus said: "Besides making important reductions in present schedules, the K.C.S. will operate triple-daily passenger service both ways between Kansas City and New Orleans, and double-daily service both ways between Kansas City and the ports of Beaumont, Lake Charles and Port Arthur."

The "Southern Belle" exhibition train will first be presented to the public at Kansas City on March 7. During the following two weeks, the train will visit major on-line points between Kansas City and New Orleans and between Shreveport and Port Arthur.

Additional General News appears on pages 78 and 80.

OVERSEAS

British Railways Adopt T-Section Rail

The Railway Executive, the government agency responsible for operation of the British railways, has adopted the T-section rail as the standard for all lines, replacing the "bull-head" rail, which has been the standard for many years. According to the executive, the new section is stronger, safer, quieter and smoother running; will be more economical to install and maintain, and is expected to have longer service life than the bull-head section.

The decision to make the change resulted from extensive comparative tests begun under the auspices of the former railway companies and continued after unification of the railways was effected at the beginning of 1948, at which time 260 miles of T-section rail had been laid. Last year 298 additional miles of this rail were laid.

Two sections have been chosen as standard. One—a 98-lb. rail—will be laid on light-traffic lines, while a 109-lb. rail has been adopted for heavy traffic. Evenutally, the heavier section will be laid on approximately 22,000 mi. of track.

To avoid interference with steel production, the new section will be introduced gradually. The rail program for this year involves about 1,484 mi. of track, of which 463 mi. will be laid with T-section rail.

SUPPLY TRADE

The **Burroughs Adding Machine Company** has concluded an agreement with the **Bell & Howell Co.** to purchase the latter's entire output of microfilm equipment. The equipment will be distributed and serviced through Burroughs sales and service organizations in this country and abroad.

Albert F. Metz, formerly vice-president and treasurer of the **Okonite Company,** has been elected president and general manager, to succeed the late **Frank C. Jones,** whose death was reported in the *Railway Age* of January 29, page 45. The company also has announced the election of **Donald R. Stevens,** formerly a vice-president, as executive vice-president and a member of the executive committee.

The **Mine Safety Appliances Company** has announced plans for building a new four-story laboratory in Pittsburgh, Pa., for research and development of safety equipment for all industry, including the transportation field. It is expected the building will be completed in September.

The elections of **Kempton Dunn** as vice-president and **Cyrus E. Brush** as secretary of the **American Brake Shoe Company** have been announced. Mr. Dunn

Kempton Dunn

has been associated with Brake Shoe since he graduated from college in 1932. He was elected treasurer of the company in 1942 and assumed the additional duties of secretary in 1947. In his

Cyrus E. Brush

new capacity as vice-president, he will also continue as treasurer. Mr. Brush joined Brake Shoe as an attorney, in 1946, following his return from service with the United States Navy. He became assistant secretary in 1947.

Nathan Straus-Duparquet, Inc., has announced the appointment of **John O. McGowan** as manager of the marine and railroad division. Mr. McGowan was assistant manager of the marine division of S. Blickman, Inc., for several years and was vice-president of Owen-Webber, Inc., a firm specializing in the design and equipping of food service areas aboard ships and trains.

The **Union Asbestos & Rubber Co.** has purchased a part of the former Bluebonnet ordnance plant at McGregor, Tex., from the War Assets Administration. The acquisition, consisting of approximately 75,000 sq. ft. of manufacturing space and 125 acres of land, will be used principally for production of high temperature insulations.

Charles M. Wheeler, formerly district manager of the **Union Switch & Signal Co.** at New York, has been appointed general sales manager, with headquarters at Swissvale, Pa. Mr. Wheeler was graduated from Pennsylvania State College in 1911 with a B.S. degree in electrical engineering and, in 1913, received his E. E. degree. He began his working career in 1911 as a signal apprentice on the Pennsylvania, and was advanced through various positions until his appointment as assistant supervisor signals on March 1, 1916. From March, 1918, to March, 1921, he was assistant division operator and division

Charles M. Wheeler

operator at Pittsburgh, Pa., after which he was supervisor telegraph and signals on the Erie & Ashtabula, Eastern and Pittsburgh divisions. Mr. Wheeler left the Pennsylvania on September 1, 1927, to join Union Switch & Signal as sales engineer at Swissvale. On October 1, 1940, he was transferred to New York as assistant district manager and, on October 9, 1945, appointed district manager.

Warren S. Marshall, who has been associated with the **Chicago Steel Service Company** since 1937, has been appointed manager of the firm's railroad sales.

Stockholders of the **Acme Steel Company,** at their annual meeting on April 19, will be asked to vote on a proposal to increase the firm's authorized common stock from 1,500,000 to 3,000,000 shares. No change in the $10 par value a share is contemplated. If the proposal is approved, the board of directors will increase the number of shares outstanding from 993,324 to 1,986,648. The additional shares will be distributed about May 21. Retaining the present par value, the company said, will bring the capital stock valuation more nearly in line with the present investment in fixed capital assets.

W. H. Fehrs, whose appointment as a vice-president of the **Union Asbestos & Rubber Co.** was announced in the *Railway Age* of February 5, was with the mechanical engineering department of the Union Pacific, at Omaha, Neb., for 12 years, before he joined the railroad

W. H. Fehrs

sales department of Union Asbestos & Rubber in May, 1928. From 1932 to 1939 he was manager of automotive sales. He was appointed assistant to the vice-president in 1939 and, later that year, manager of the Cicero, Ill., plant. Before his recent appointment he was assistant to the president, in charge of railroad sales.

Dan Call has been appointed southeastern sales representative of the **Waugh Equipment Company,** with headquarters at Richmond, Va. Mr. Call received his education at the Woodberry Forest school and the University of

Dan Call

Virginia. After graduation in 1931, he joined the Richmond, Fredericksburg & Potomac, where he worked in the car and locomotive shops as draftsman, air-conditioning supervisor, mechanical inspector and representative and as gen-

eral foreman of the locomotive department. About a year ago, Mr. Call established his own business as manufacturer's representative for the southeastern area.

C. E. Grigsby, whose election as vice-president of **American Steel Foundries** was announced in *Railway Age* of February 5, page 110, will serve as direct assistant to **G. H. Snyder,** vice-president in charge of all sales, with headquarters

C. E. Grigsby

at Chicago. Mr. Grigsby was graduated from the University of Michigan in 1923, with a degree in mechanical engineering, after which he joined American Steel Foundries as sales engineer. He later was manager of specialty steel castings and, since 1943, has been assistant vice-president.

J. F. Graham has been appointed representative of the **Westinghouse Air Brake Company,** in charge of the Los Angeles, Cal., office. Mr. Graham joined the company in June, 1940, as a tester at Wilmerding, Pa., and later served as

J. F. Graham

industrial engineer in the engineering department. He was assigned to the San Francisco, Cal., office in November, 1947, as industrial representative, the position he held at the time of his recent appointment.

Roger C. Sullivan has joined the **Shippers' Car Line Corporation** (a subsidiary of the **American Car & Foundry Co.**), as assistant to the vice-president at Chicago.

John F. Thompson, executive vice-president of the **International Nickel Company** since 1936, has been elected president, to succeed **Robert C. Stanley,** who will continue as chairman of the board. **Paul D. Merica,** vice-president since 1936, has become executive vice-president. **Henry S. Wingate,** secretary since 1939, has become a vice-president and will continue as secretary.

B. R. Cole, formerly manager of government sales for the **Graybar Electric Company,** has been appointed manager of the firm's branch at Fresno, Cal.

Seward T. Selvage, formerly assistant district manager in the Cleveland, Ohio, office of the **Timken Roller Bearing Company,** has been made sales promotion manager, with headquarters in Canton, Ohio. **T. F. Rose,** Cincinnati, Ohio, branch manager for Timken's service sales division, has become manager of **Timken Roller Bearing Service & Sales, Ltd.,** Toronto, Ont. Mr. Rose succeeds the late **C. E. Webster.** He is succeeded at Cincinnati by **H. C. Telford,** formerly assistant manager of the Timken branch in Atlanta, Ga.

OBITUARY

Harry Woodward Beedle, who retired in June, 1948, as manager of the Boston, Mass., branch of the Electric Storage Battery Company, died on February 3. He was 69 years old.

A. J. Boase, manager, Structural and Railways Bureau, Portland Cement Association, with headquarters at Chicago, died on February 9.

John E. Urban, who retired in 1927 as purchasing agent of Fairbanks, Morse & Co., Chicago, died on February 7, at the age of 81.

A. R. Whitehorn, transportation research engineer of the Union Switch & Signal Co., with headquarters at Swissvale, Pa., died on February 1, at Pittsburgh, Pa. He was 61 years old. Mr. Whitehorn entered railway service in 1908 in bridge construction work on the Chicago & North Western and, from 1909 to 1912, was leverman on the Union Pacific. In the latter year he joined the Chicago, Burlington & Quincy, where he worked in various capacities, including that of office engineer, until July, 1917, when he resigned to join the Illinois Central as estimator. Later he was appointed office engineer. In 1929 he became associated with the General Railway Signal Company and in 1931 was promoted to commercial engineer. In the early part of 1937 he returned to the signal department of the Burlington on a special engineering assignment dealing with an extensive centralized traffic control installation. At the completion of this work, in November, 1937, he was appointed sales engineer of the Western Railroad Supply Company and worked in this capacity until June, 1939, when he was employed as general engineer in the signal engineer's office of the

A. R. Whitehorn

Chicago Rapid Transit. Mr. Whitehorn began his association with Union Switch & Signal on December 8, 1941, in the capacity of field engineer, located in Chicago, in connection with the State Street Subway installation. Following completion of this work, he was transferred to the Swissvale office, where he was connected with the general engineering and transportation research departments.

Walter C. Sanders, general manager, Railway Division, Timken Roller Bearing Company, died on February 13 in the Altman hospital, Canton, Ohio, after an illness of two weeks. Mr. Sanders was born on February 4, 1893, in Cedartown, Ga. He attended the Cedartown high school and Mercer University (1915) and was licensed mechanical engineer in New York and Ohio. He began his career as an apprentice machinist in the locomotive shops of the Central of Georgia at Cedartown in 1908. In 1912 he became sub-foreman and shop draftsman, locomotives and cars, at the Macon (Ga.) shops. In 1915 he was employed by the Bibb Manufacturing Company at Macon as a machinist and draftsman. In 1916 he went to Waycross, Ga., as a machinist in the locomotive repair shops of the Atlantic Coast Line. Later in 1916 he was assigned to mechanical engineering work in the office of the general superintendent of motive power of the A.C.L. at Wilmington, N. C. In 1917 he was commissioned a lieutenant in the U. S. Army. He served with the Artillery in France until after the armistice when he served with the 18th U. S. Engineers

and Division of Construction at Bordeaux. After his return to the United States he was assigned to the Artillery Training Center at Fort Monroe, Va., to help make a study of railway artillery operations in the United States. During 1918-19 he prepared courses and instructed artillery student officers at West Point. Mr. Sanders returned to railroad work in 1920 as leading car draftsman, designer and special engineer in the rolling stock division of the equipment engineering department of the New York Central at New York. He joined Timken Roller Bearing in 1923 as engineer of railway equipment

Walter C. Sanders

and was appointed general manager, Railway Division, in 1927. Mr. Sanders had been admitted to practice law before many U. S. and State courts, including the U. S. Supreme Court. He was a lieutenant colonel in the U. S. Army Reserve Corps and had been commended by the assistant secretary of war for the preparation of a general transportation plan for a national emergency for the War Department. He held memberships in many associations, including the Railway Supply Manufacturers' Association, of which he had been an executive committee member and chairman of the export committee. He had served on the general committee of, and as chairman of the executive committee of, the Railroad Division, American Society of Mechanical Engineers.

CAR SERVICE

I.C.C. Service Order No. 68-A suspended, from February 14 until April 16, Service Order No. 68 which has prohibited the furnishing of two small cars for a larger car ordered and suspended Rule 24 of the Consolidated Freight Classification and other tariff provisions which permit application of minimum weights lower than those provided for the car used. The suspension period is the same as that for which the Office of Defense Transportation's minimum-loading order for carload freight, General Order ODT 18A, has been suspended (see *Railway Age* of February 5, page 115.

ORGANIZATIONS

A.A.R. Mechanical Division Annual Meeting in Chicago

The annual meeting of the Mechanical Division, Association of American Railroads, will be held in Chicago, June 27, 28 and 29, in the Gold room of the Congress Hotel, convention headquarters. The initial meeting will convene at 10:00 a.m., June 27, and continue until 5:00 p.m. Meetings on June 28 and 29 will convene at 9:00 a.m. Every effort will be made to adjourn in the early afternoon on June 29, so that out-of-town members wishing to depart on late afternoon trains may do so.

The **Trans-Missouri-Kansas Shippers Board** will hold its next meeting on March 8 and 9 at the Hotel Robidoux in St. Joseph, Mo. R. L. Lee, public relations section of General Motors Corporation, Detroit, Mich., will speak at a luncheon on March 9 on "Humanics in Shipping."

The **First Transportation Military Railway Service Reserve Component** will hold a meeting in room 304, 226 West Jackson blvd., Chicago, at 6:30 p.m. March 4, at which Col. William J. Deyo, transportation officer, Headquarters, Fifth Army, and Col. Ernest E. Foulks, superintendent of transportation, Atchison, Topeka & Santa Fe, and commanding officer of the First Transportation Military Service, will be featured speakers. All railroaders who are veterans are invited to attend. Those assigned to units outside the Chicago area are especially urged to be present.

The forty-second annual dinner of the **Traffic Club of Washington, D. C.,** was held at the Mayflower Hotel in that city on February 9. Mayor John F. Davis of Reading, Pa., was the speaker, and Arthur H. Gass, chairman of the Car Service Division, Association of American Railroads, acted as toastmaster. Guests included Interstate Commerce Commissioners William J. Patterson, J. Monroe Johnson, John L. Rogers, J. Haden Alldredge and Richard F. Mitchell; William T. Faricy, president of the A.A.R.; J. M. Hood, president of the American Short Line Railroad Association; Thomas J. Deegan, Jr., president of the Federation for Railway Progress; and Major General Frank A. Heileman, chief of transportation, Department of the Army.

The **Railroad Enthusiasts, Inc.,** will hold their next meeting on February 23, at 7:45 p.m., in room 5928, Grand Central Terminal, New York. This meeting, designated as "Burlington Nite," will have as its guest speaker Albert Cotsworth, Jr., passenger traffic manager of the Chicago, Burlington & Quincy.

Robert Maguire, manager, traffic division, Atlantic Refining Company, has been elected president of the **Traffic Club of Philadelphia, Pa.,** effective next month. Other officers elected are: First vice-president, F. H. Hicks, assistant general freight agent, Central of New Jersey; second vice-president, S. W. Mason, traffic manager, Tiona Petroleum Company; and historian, Harry S. Wagner, traffic manager, General Refractories Company.

EQUIPMENT AND SUPPLIES

North Western Approves Spending Of $48 Million for Improvements

The Chicago & North Western's directors have authorized purchase of new motive power and rolling stock which, together with that now on order, will cost $37,110,000. In addition, the board has approved additions and betterments to roadway and fixed property amounting to $8,600,000 and improvements to existing rolling stock and shop machinery costing $2,770,000.

Diesel power to be purchased includes 49 1,500-hp. freight locomotive units, five 1,500-hp. road switchers, two 2,000-hp. hump yard switchers and four yard switchers. Also to be acquired are 1,250 freight cars, including 250 equipped with auto loading devices. The road had on order, as of January 1, 1949, 39 Diesel locomotives of various types, 36 streamlined passenger train cars and 869 freight cars. The company will continue to rebuild steel hopper cars at its Winona (Minn.) shops, 171 of these being scheduled for this year.

The C. & N. W. plans substantial programs of new 115-lb. rail and out-of-face ballasting in high-speed territory, to extend its present program for mechanization of track maintenance and construction work, to improve station facilities, to install additional crossing protection, and to construct many new facilities to replace property which is worn out or obsolete.

PASSENGER CARS

The **Chicago, Burlington & Quincy** has ordered 30 all-stainless steel 85-ft. suburban passenger cars from the Budd Company, as part of an $8,500,000 program to modernize and Dieselize the

eral foreman of the locomotive department. About a year ago, Mr. Call established his own business as manufacturer's representative for the southeastern area.

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A. J. Boase, manager, Structural and Railways Bureau, Portland Cement Association, with headquarters at Chicago, died on February 9.

John E. Urban, who retired in 1927 as purchasing agent of Fairbanks, Morse & Co., Chicago, died on February 7, at the age of 81.

A. R. Whitehorn, transportation research engineer of the Union Switch & Signal Co., with headquarters at Swissvale, Pa., died on February 1, at Pittsburgh, Pa. He was 61 years old. Mr. Whitehorn entered railway service in 1908 in bridge construction work on the Chicago & North Western and, from 1909 to 1912, was leverman on the Union Pacific. In the latter year he joined the Chicago, Burlington & Quincy, where he worked in various capacities, including that of office engineer, until July, 1917, when he resigned to join the Illinois Central as estimator. Later he was appointed office engineer. In 1929 he became associated with the General Railway Signal Company and in 1931 was promoted to commercial engineer. In the early part of 1937 he returned to the signal department of the Burlington on a special engineering assignment dealing with an extensive centralized traffic control installation. At the completion of this work, in November, 1937, he was appointed sales engineer of the Western Railroad Supply Company and worked in this capacity until June, 1939, when he was employed as general engineer in the signal engineer's office of the

A. R. Whitehorn

Chicago Rapid Transit. Mr. Whitehorn began his association with Union Switch & Signal on December 8, 1941, in the capacity of field engineer, located in Chicago, in connection with the State Street Subway installation. Following completion of this work, he was transferred to the Swissvale office, where he was connected with the general engineering and transportation research departments.

Walter C. Sanders, general manager, Railway Division, Timken Roller Bearing Company, died on February 13 in the Altman hospital, Canton, Ohio, after an illness of two weeks. Mr. Sanders was born on February 4, 1893, in Cedartown, Ga. He attended the Cedartown high school and Mercer University (1915) and was licensed mechanical engineer in New York and Ohio. He began his career as an apprentice machinist in the locomotive shops of the Central of Georgia at Cedartown in 1908. In 1912 he became sub-foreman and shop draftsman, locomotives and cars, at the Macon (Ga.) shops. In 1915 he was employed by the Bibb Manufacturing Company at Macon as a machinist and draftsman. In 1916 he went to Waycross, Ga., as a machinist in the locomotive repair shops of the Atlantic Coast Line. Later in 1916 he was assigned to mechanical engineering work in the office of the general superintendent of motive power of the A.C.L. at Wilmington, N. C. In 1917 he was commissioned a lieutenant in the U. S. Army. He served with the Artillery in France until after the armistice when he served with the 18th U. S. Engineers

and Division of Construction at Bordeaux. After his return to the United States he was assigned to the Artillery Training Center at Fort Monroe, Va., to help make a study of railway artillery operations in the United States. During 1918-19 he prepared courses and instructed artillery student officers at West Point. Mr. Sanders returned to railroad work in 1920 as leading car draftsman, designer and special engineer in the rolling stock division of the equipment engineering department of the New York Central at New York. He joined Timken Roller Bearing in 1923 as engineer of railway equipment

Walter C. Sanders

and was appointed general manager, Railway Division, in 1927. Mr. Sanders had been admitted to practice law before many U. S. and State courts, including the U. S. Supreme Court. He was a lieutenant colonel in the U. S. Army Reserve Corps and had been commended by the assistant secretary of war for the preparation of a general transportation plan for a national emergency for the War Department. He held memberships in many associations, including the Railway Supply Manufacturers' Association, of which he had been an executive committee member and chairman of the export committee. He had served on the general committee of, and as chairman of the executive committee of, the Railroad Division, American Society of Mechanical Engineers.

CAR SERVICE

I.C.C. Service Order No. 68-A suspended, from February 14 until April 16, Service Order No. 68 which has prohibited the furnishing of two small cars for a larger car ordered and suspended Rule 24 of the Consolidated Freight Classification and other tariff provisions which permit application of minimum weights lower than those provided for the car used. The suspension period is the same as that for which the Office of Defense Transportation's minimum-loading order for carload freight, General Order ODT 18A, has been suspended (see *Railway Age* of February 5, page 115.

ORGANIZATIONS

A.A.R. Mechanical Division Annual Meeting in Chicago

The annual meeting of the Mechanical Division, Association of American Railroads, will be held in Chicago, June 27, 28 and 29, in the Gold room of the Congress Hotel, convention headquarters. The initial meeting will convene at 10:00 a.m., June 27, and continue until 5:00 p.m. Meetings on June 28 and 29 will convene at 9:00 a.m. Every effort will be made to adjourn in the early afternoon on June 29, so that out-of-town members wishing to depart on late afternoon trains may do so.

The **Trans-Missouri-Kansas Shippers Board** will hold its next meeting on March 8 and 9 at the Hotel Robidoux in St. Joseph, Mo. R. L. Lee, public relations section of General Motors Corporation, Detroit, Mich., will speak at a luncheon on March 9 on "Humanics in Shipping."

The **First Transportation Military Railway Service Reserve Component** will hold a meeting in room 304, 226 West Jackson blvd., Chicago, at 6:30 p.m. March 4, at which Col. William J. Deyo, transportation officer, Headquarters, Fifth Army, and Col. Ernest E. Foulks, superintendent of transportation, Atchison, Topeka & Santa Fe, and commanding officer of the First Transportation Military Service, will be featured speakers. All railroaders who are veterans are invited to attend. Those assigned to units outside the Chicago area are especially urged to be present.

The forty-second annual dinner of the **Traffic Club of Washington, D. C.,** was held at the Mayflower Hotel in that city on February 9. Mayor John F. Davis of Reading, Pa., was the speaker, and Arthur H. Gass, chairman of the Car Service Division, Association of American Railroads, acted as toastmaster. Guests included Interstate Commerce Commissioners William J. Patterson, J. Monroe Johnson, John L. Rogers, J. Haden Alldredge and Richard F. Mitchell; William T. Faricy, president of the A.A.R.; J. M. Hood, president of the American Short Line Railroad Association; Thomas J. Deegan, Jr., president of the Federation for Railway Progress; and Major General Frank A. Heileman, chief of transportation, Department of the Army.

The **Railroad Enthusiasts, Inc.,** will hold their next meeting on February 23, at 7:45 p.m., in room 5928, Grand Central Terminal, New York. This meeting, designated as "Burlington Nite," will have as its guest speaker Albert Cotsworth, Jr., passenger traffic manager of the Chicago, Burlington & Quincy.

Robert Maguire, manager, traffic division, Atlantic Refining Company, has been elected president of the **Traffic Club of Philadelphia, Pa.,** effective next month. Other officers elected are: First vice-president, F. H. Hicks, assistant general freight agent, Central of New Jersey; second vice-president, S. W. Mason, traffic manager, Tiona Petroleum Company; and historian, Harry S. Wagner, traffic manager, General Refractories Company.

EQUIPMENT AND SUPPLIES

North Western Approves Spending Of $48 Million for Improvements

The Chicago & North Western's directors have authorized purchase of new motive power and rolling stock which, together with that now on order, will cost $37,110,000. In addition, the board has approved additions and betterments to roadway and fixed property amounting to $8,600,000 and improvements to existing rolling stock and shop machinery costing $2,770,000.

Diesel power to be purchased includes 49 1,500-hp. freight locomotive units, five 1,500-hp. road switchers, two 2,000-hp. hump yard switchers and four yard switchers. Also to be acquired are 1,250 freight cars, including 250 equipped with auto loading devices. The road had on order, as of January 1, 1949, 39 Diesel locomotives of various types, 36 streamlined passenger train cars and 869 freight cars. The company will continue to rebuild steel hopper cars at its Winona (Minn.) shops, 171 of these being scheduled for this year.

The C. & N. W. plans substantial programs of new 115-lb. rail and out-of-face ballasting in high-speed territory, to extend its present program for mechanization of track maintenance and construction work, to improve station facilities, to install additional crossing protection, and to construct many new facilities to replace property which is worn out or obsolete.

PASSENGER CARS

The **Chicago, Burlington & Quincy** has ordered 30 all-stainless steel 85-ft. suburban passenger cars from the Budd Company, as part of an $8,500,000 program to modernize and Dieselize the

road's suburban equipment. Delivery is scheduled for next year. The cars will be of the gallery-type with two levels, each car carrying 148 passengers, and each will be 15 ft. 8 in. high. There will be double seats for 96 passengers on the lower level and single seats for 52 passengers on the upper level.

FINANCIAL

Lehigh Valley Revamp Plan Approved by the I.C.C.

The Interstate Commerce Commission has approved, with amendments, this road's plan for modifying some of its outstanding securities under the so-called Mahaffie Act, now embodied in section 20b of the Interstate Commerce Act. The commission's decision in Finance Docket No. 16184 authorizes submission of the plan, as modified by required amendments, to holders of the securities affected for acceptance or rejection.

The plan, as the commission's report put it, has been proposed "to meet the problems presented by approaching maturities and by heavy fixed charges, and in order that the system may achieve a sounder financial condition and avoid prospective financial difficulties and possible insolvency." The Lehigh is now faced over the next eight years with maturity of approximately $45,000,000 of bonds, of which approximately $32,500,000 mature by October 1, 1951. In 11 of the last 20 years, the road has failed to earn its fixed charges, including rent for leased lines. Its management, the commission said, is of the opinion that cash for meeting the bond maturities, as presently set up, will not be available, and that refunding of the issues will not be practicable.

Under the proposed plan, none of the road's bond issues would mature until 1969, and thereafter maturities would be spaced at 5-year intervals until 1994. The largest maturity, prior to 2003, would be one of $14,711,000 in 1974.

The principal modification contemplated by the plan would be that affecting the Lehigh's junior issue of bonds, i.e., $71,754,000 of general consolidated mortgage bonds, maturing in 2003. These would have three-fourths of their interest, which is now all fixed, made contingent on earnings, although present interest rates of 4, 4½ and 5 per cent would remain unchanged. The proposed modification would be accomplished by cancellation of the present bonds, and the issuance to each holder of $1,000 principal amount, of two new bonds — one of $250 bearing fixed interest, and the other of $750 bearing contingent interest. As proposed in the original plan, the contingent interest would be cumulative and accrue up to the equivalent of three years of interest. One of the amendments required by the commission makes the accrual period five years.

In addition to the two new bonds, the holder of each $1,000 of the present bonds would also receive four shares of new common stock of no-par value. In the latter connection, the common stock would be changed from its present $50 par value; and the total number of shares outstanding would be increased from 1,210,034 to 1,497,050 shares, about 19 per cent of which would be held by the bondholders.

With the modification of the interest provisions of these general consolidated-mortgage bonds, the fixed-charge bond interest (as of December 31, 1948) would be reduced from $5,954,405 annually to $3,634,171, or by $2,320,234. If such a modification had been in effect, the commission said, the Lehigh would have earned its fixed charges in all but four of the past 20 years.

The proposed modifications with respect to various senior issues of bonds are as follows:

$12,600,000 of L. V. consolidated mortgage annuity bonds, which have no maturity date and are not redeemable, would be given a maturity date of April 1, 1989, and would be made redeemable. The interest rate on $10,062,000 of these bonds is 6 per cent, while the remaining $2,538,000 bear interest at 4½ per cent.

$8,268,000 of Pennsylvania and New York Canal & Railroad Co. consolidated mortgage bonds, due April 1, 1949, and bearing interest of 4, 4½ and 5 per cent, would be modified to make the maturity date April 1, 1969.

$14,711,000 of Lehigh Valley Rail Way Company first mortgage 4½ per cent bonds would get a maturity date of July 1, 1974, instead of July 1, 1950.

$9,572,000 of Lehigh Valley Terminal Railway Company first mortgage 5 per cent bonds, due October 1, 1951, would be modified to make the maturity date October 1, 1979.

$9,803,000 of Lehigh Valley Harbor Terminal Railway Company first mortgage, 5 per cent bonds, due February 1, 1954, would be modified to make the maturity date February 1, 1984.

$3,000,000 of Lehigh & Lake Erie first mortgage, 4½ per cent bonds would get a maturity date of March 1, 1994, instead of March 1, 1957.

The present interest rates on all of these issues would remain unchanged and the interest would remain fixed. Because of the proximity of the maturity date (April 1, 1949) of the Canal bonds, the plan would provide, as an intermediate step, for a preliminary extension to June 1, 1950, of the maturity of those bonds, if necessary. A general sinking fund would be established for retirement of both the senior bonds and the general consolidated bonds, the annual payments into the fund, if earned, to be made after payment of contingent interest and before any dividends are paid on stock.

Amendments required by the commission, in addition to that fixing a five-year accrual period for the contingent interest, include the following:

(1) A specific provision that no dividends shall be paid on stock while there are any unpaid accumulations of interest on the general consolidated contingent interest bonds.

(2) Provisions permitting the trustee under the consolidated general mortgage to designate at least one-third of the total number of Lehigh directors to be selected at any regular stockholders meeting held at a time when accrued or unpaid contingent interest on the bonds is equivalent to four years' interest. This right of designation would continue until all accrued and unpaid interest was paid.

(3) A condition stipulating that that within six months after the plan becomes effective, the Girard Trust Company shall have resigned as trustee under the general consolidated mortgage and a qualified successor trustee, "entirely free of conflicting associations," shall have been appointed and shall have accepted.

The report revealed that this condition was imposed by the commission because the Girard Trust Company and the Pennsylvania "are affiliated through several common officers." The report added: "In view of the responsibilities of the trustee, we consider it improper for Girard Trust Company to continue to serve as trustee under this mortgage when the modifications herein approved become effective."

Meanwhile, the commission had rejected contentions of intervenors representing some holders of the general consolidated mortgage bonds, who alleged that the readjustment plan was formulated by the Lehigh management "under the direction of a board of directors, who in turn were elected by the Pennsylvania which at all time has dominated the affairs of the applicant through the direct and indirect ownership of 51 per cent of the voting stock." In that connection, the report pointed out that the Lehigh stock (30.08 per cent of the total) owned by the Pennsylvania Company, P.R.R. subsidiary, and the 21.39 per cent owned by the Wabash has been made subject to trusts created pursuant to commission orders. "Each trust," the report added, "is independent of the beneficiaries and of the other trust."

Alabama, Tennessee & Northern. — *Trackage Rights.*—Division 4 of the Interstate Commerce Commission has authorized acquisition by this road of trackage rights over approximately 3.66 mi. of line owned by the Alabama State Docks in Mobile, Ala.

Belt of Chicago.—*Trackage Rights.*—This road has applied to the Interstate Commerce Commission for approval of a supplemental agreement extending for 13 years from January 31 an agreement under which it operates under trackage rights over lines of the Baltimore & Ohio Chicago Terminal. The agreement has been in effect since 1929, and the new expiration date would be January 31, 1962.

Boston & Maine.—*Stock Adjustment.*—The Interstate Commerce Commission

has set March 28 as the date for public hearing on this road's amended Mahaffie-Act application for authority to effect a voluntary modification of its capital stock set-up (see *Railway Age* of January 29, page 46). The hearing will be held at the Hotel Lenox, Boston, Mass., before Examiner Kirby.

Chicago, Burlington & Quincy.—*Trackage Rights.*—The Inter-State Commerce Commission has set March 14 as the date for hearing on this road's application for approval of trackage-rights arrangements whereby it would use about 158 miles of Gulf, Mobile & Ohio system lines between Rock Creek Junction, Mo., and Francis and thus establish an improved freight route between Kansas City and St. Louis (see *Railway Age* of January 1, page 53). The hearing will be held in St. Louis at the Hotel Statler before Examiner Lyle.

New York Central.—*New Director.*—Albert B. Dick, Jr., chairman of the board of the A. B. Dick Company, of Chicago, has been elected a director of this road. Mr. Dick succeeds Joseph M. O'Mahoney, the Central's secretary, who in the last two years served both as a director and as secretary.

Wheeling & Lake Erie.—*Dividend.*—This road has declared an extra dividend of 68¾ cents a share on the common stock, payable April 1 to stockholders of record March 21.

New Securities

Application has been filed with the Interstate Commerce Commission by:

Missouri-Kansas-Texas.—To assume liability for $2,550,000 of equipment trust certificates to finance in part the acquisition of two Diesel-electric passenger locomotives and 500 hopper cars at an estimated total cost of $3,328,035. The locomotives, each consisting of two 2,000 hp. "A" units, will be purchased from the American Locomotive Company at a cost of $446,600 each. The 500 70-ton steel triple hopper cars (welded type), costing $4,869.67 each, will be purchased from the Pressed Steel Car Company. The certificates would be dated April 1, and would mature in 30 semi-annual installments of $85,000 each, beginning October 1, 1949. They would be sold on the basis of competitive bids and the interest rate would be fixed by such bids.

Division 4 of the I.C.C. has **authorized:**

Arcade & Attica.—To issue to the Citizens Bank of Arcade, N. Y., an unsecured promissory demand note, for $15,000, dated December 29, 1948, and bearing interest at 4 per cent. The note, proceeds of which will be used to pay traffic balances owed to the Pennsylvania, will be substituted for a like note which was issued without prior approval by the commission.

Erie.—To assume liability for $6,300,000 of 2¼ per cent equipment trust certificates to finance in part acquisition of 19 Diesel-electric locomotives, 700 box cars and seven lightweight sleeping cars. (See *Railway Age* of January 22, page 55). The certificates will be dated December 15, 1948, and will mature in 10 annual installments of $630,000 each beginning December 15, 1949. The commission's report approved a selling price of 100.117—the bid of Harriman Ripley & Co. and Lehman Brothers, which will make the average annual interest cost approximately 2.23 per cent. The certificates were reoffered to the public at prices yielding from 1.35 to 2.4 per cent, according to maturity.

Wheeling & Lake Erie.—To assume liability for $2,120,000 of series R equipment trust certificates to finance in part acquisition of 500 70-ton gondola cars. (See *Railway Age* of January 22, page 55). The certificates will be dated February 15, and will mature in 20 semi-annual installments of $106,000 each, beginning August 15. The commission's report approved a selling price of 99.505 for the issue with a 2 per cent interest rate—the bid of Halsey, Stuart & Co. and associates, which will make the average annual interest cost approximately 2.1 per cent. The certificates were reoffered to the public at prices yielding from 1.25 to 2.3 per cent, according to maturity.

Average Prices Stocks and Bonds

	Feb. 15	Last week	Last year
Average price of 20 representative railway stocks	40.13	40.88	46.67
Average price of 20 representative railway bonds	87.72	88.60	86.18

Dividends Declared

Fort Wayne & Jackson.—5½% preferred, $2.75, semi-annually, payable March 1 to holders of record February 18.

North Pennsylvania.—$1.00, quarterly, payable February 25 to holders of record February 18.

Pittsburgh, Youngstown & Ashtabula.—7% preferred, $1.75, quarterly, payable March 1 to holders of record February 21.

Virginian.—62½¢, quarterly, payable March 25 to holders of record March 10.

Wheeling & Lake Erie.—75¢, quarterly; extra, 68¾¢, both payable April 1 to holders of record March 21.

ABANDONMENTS

Applications have been filed with the Interstate Commerce Commission by:

Atlantic Coast Line.—To abandon a 22-mi. section of its Conway and Myrtle Beach branch between Fairmont, N. C., and Chadbourn. The application stated that present and prospective traffic is insufficient to justify continued operation of the segment.

Central of New Jersey.—To abandon a 4.3-mi. section of its Cumberland and Maurice River branch in Commercial township, N. J.

Division 4 of the I.C.C. has **authorized:**

Chicago & North Western-Chicago, Rock Island & Pacific.—To abandon a 1,236-ft. connecting track at Carnforth, Iowa. The division's decision adopted the recommendations of Examiner H. J. Bond's proposed report to which no exceptions were filed (see *Railway Age* of December 25, 1948, page 56).

Chicago, Burlington & Quincy.—To abandon a 10.42-mi. line from Clearmont, Mo., to Shambaugh, Iowa. The abandonment was opposed by the Iowa State Commerce Commission and other local interests, but the commission found that neither present nor prospective traffic on the segment would be sufficient to warrant its retention.

Denver & Rio Grande Western.—To abandon 2.53 miles of its Rouse branch, from a connection with the Colorado & Southern at Monson, Colo., to the end of the line near Rouse.

Missouri Pacific.—To abandon a 9.5-mile line between Vulcan, Mo., and Gads Hill. The same report authorized construction of a new 7.2-mi., line between the same points.

Reading.—To abandon operation over 1,266 ft. of line in Columbia County, Pa., which is part of the Potts Colliery branch of its lessor, the Mine Hill & Schuylkill Haven. The same report authorized the lessor to abandon the line.

Union Pacific.—To abandon operation over a 750-ft. section of line in Riverside, Cal. The line involved is part of the Los Angeles & Salt Lake's Crestmore branch; and the same report authorized its abandonment by that lessor of the U.P.

Western Maryland.—To abandon an 0.99-mi. section of its Detmold branch in Allegany County, Md. A coal mine formerly served by the line has been abandoned.

CONSTRUCTION

Elgin, Joliet & Eastern.—This road has authorized the following construction projects at East Joliet, Ill., at the indicated estimated costs: A 54 ft. by 132 ft. concrete block truck garage ($24,917); a yard office and locker room at the north end of the road's yard ($54,678); and an office and sanitary facilities at the south end of the yard ($20,912).

Missouri Pacific.—This road has been authorized by the Interstate Commerce Commission to construct a line extending approximately 7.2 miles from a point near Vulcan, Mo., to a point near Gads Hill. The line will replace another which the same report authorized the road to abandon.

Pennsylvania.—This road will spend more than $8,800,000 to remove equipment restrictions in five tunnels on a 45-mi. stretch of its Panhandle division main line in Ohio starting just west of Steubenville and ending eight miles east of Dennison. When the work is completed, probably before the winter of 1950, all equipment restrictions will be removed from the Panhandle route and the most modern cars and locomotives will be useable, with a consequent saving of freight delivery time.

The work on the tunnels will include improvement in track alinement and a considerable reduction in curvature.

Tunnel No. 5, 3,260 ft. long, west of Gould, will be modernized at a cost of $815,000. Additional trackage will be constructed east of the present tunnel. Tunnel No. 6, 472 ft. long, will be replaced with a cut at a cost of $1,828,500. Tunnels Nos. 7 and 8, 15 mi. west of Steubenville, also are to be by-passed by construction of a new line at a cost of $3,295,100. Work at the fifth tunnel, No. 10, 1,420 ft. long and located west of Bowerston, will include new alinement of track and construction of a new 900-ft. tunnel.

The five tunnels were constructed many years ago when freight equipment was much smaller than that in use today. As a result, the use of modern box cars of the larger types, and open loads of the high and wide variety, have been restricted, necessitating detours.

RAILWAY OFFICERS

EXECUTIVE

Walter H. Evans, whose retirement as vice-president and general manager of the Sacramento Northern at San Francisco, Cal., was reported in the *Railway Age* of December 25, 1948, was born on April 14, 1883, at Denver, Colo. He attended Stanford and Cornell Universities, graduating from the latter in 1906. He entered railroad service in July, 1906, with the Central California Traction Company at Stockton, Cal., in the engineering department. From 1909 to 1914, he served in various engineering capacities with the Southern Pacific. Mr. Evans was subsequently employed by the S. N. as electrical engineer, and in 1946 was appointed vice-president and general manager.

Eugene B. Finegan, whose retirement as vice-president of the Chicago, Milwaukee, St. Paul & Pacific at Chicago, was reported in the *Railway Age* of December 11, 1948, was born at Iron Ridge, Wis. He attended high school at Hudson, Wis., and entered railway service there in September, 1899, in the machine shop of the Chicago, St. Paul, Minneapolis & Omaha. He later served in the master car builder's office, and in 1903 he was employed as a stenographer and clerk in the office of the general agent of the Great Northern at St. Paul, Minn. In May, 1904, he entered the service of the Milwaukee Road at St. Paul as a clerk and stenographer in the commercial agent's office. From November, 1906, to April, 1916, he held successively the positions of chief clerk, to the assistant general freight agent, the general freight agent, the traffic manager and the vice-president at Chicago. Mr. Finegan was appointed chief of the tariff bureau in April, 1916, and in February of the next year he was made assistant general freight agent, advancing to general freight agent in April, 1922. He served as assistant freight traffic manager from 1925 to 1927, when he was promoted to freight traffic manager, a position he held until May, 1938, when he became assistant chief traffic officer. The following November he was advanced to chief traffic officer at Chicago, and in December, 1945, he was elected vice-president—traffic. On February 1, 1948, Mr. Finegan relinquished his post as traffic vice-president, becoming vice-president with duties as assigned by the president, which position he was holding at the time of his retirement.

Eugene B. Finegan

J. G. Morrison, whose retirement as vice-president in charge of traffic of the Northern Pacific at St. Paul, Minn., was reported in the *Railway Age* of December 25, 1948, was born on December 9, 1878, at Amboy (Lee county), Ill., and was educated in the public schools of Minneapolis, Minn., and Watertown, S. D. Mr. Morrison entered railroad service in 1893 as a messenger with the Minneapolis & St. Louis, and the following year joined the St. Paul & Duluth (now N. P.) as a clerk. He became associated with the Chicago Great Western in 1897, serving successively as clerk, chief rate clerk and chief clerk in the general freight department. He was advanced to assistant general freight agent in 1909, and later became assistant to the vice-president of the C. G. W. During the period of federal control, Mr. Morrison was assistant secretary of the Western Freight Traffic Commission of the United States Railroad Administration. He became assistant general freight agent of the Northern Pacific in 1920, and was advanced to general freight agent in 1925, to freight traffic manager in 1937 and to general freight traffic manager in 1940. Mr. Morrison left the railroad in July, 1947, to engage in traffic association work, returning to the N. P. in December, 1947, as assistant vice-president—traffic. He was promoted to vice-president in charge of traffic in October, 1948, and was serving in this position at the time of his retirement.

J. G. Morrison

Harold G. Powell, whose resignation as vice-president and treasurer of the Illinois Terminal at St. Louis, Mo., and subsequent appointment as executive representative to the president, was reported in the *Railway Age* of January 1, was born on July 3, 1874, at Pocahontas, Ill. He attended school at Upper Alton, Ill., and Haywards Business College, entering railway service in 1895 as a stenographer for the Lackawanna Fast Freight Lines at St. Louis. The next year he joined the Chicago, Burlington & Quincy, serving successively as stenographer, rate clerk and assistant chief clerk. He was employed by the Illinois Central in 1900 as chief clerk at Salt Lake City, Utah, and subsequently served as traveling freight agent, contracting agent, commercial agent, division freight agent and assistant general freight agent. He first entered I. T. service in 1921 as traffic manager, advancing to general traffic manager in 1929 and to vice-president—traffic in 1933. Mr. Powell was elected vice-president and treasurer in December, 1945.

J. H. M. Clinch, whose election as president of the Chicago, North Shore & Milwaukee at Chicago was reported in the *Railway Age* of December 25, 1948, was born on August 18, 1902, at Danville, Ill., and attended the University of Illinois, the University of Chicago and John Marshall Law School. He entered service with the North Shore and the Chicago Rapid Transit Company in April, 1925, in the treasurer's office at Chicago. In August, 1925, he was appointed secretary to the general manager at Highwood, Ill., and in January, 1926, he became secretary to the vice-president at Chicago. From 1928 to 1941, he served as secretary and treasurer of the subsidiary motor coach companies and as assistant to the vice-president at Chicago. Mr. Clinch subsequently served in various posts

REVENUES AND EXPENSES OF RAILWAYS

MONTH OF DECEMBER AND TWELVE MONTHS OF CALENDAR YEAR 1948

Name of road		Av. mileage operated during period	Operating revenues			Operating Expenses					Operating ratio	Net from railway operation	Railway tax accruals	Net railway operating income	
						Maintenance of									
			Freight	Passenger	Total (inc. misc.)	Way and structures	Equip ment	Traffic	Trans- portation	Total				1948	1947
Akron, Canton & Youngstown	Dec.	171	465,500	219	484,975	66,981	47,348	36,451	147,167	331,862	68.4	153,113	51,735	87,375	72,149
	12 mos.	171	5,649,355	1,038	5,890,356	863,381	562,955	331,800	1,642,513	3,696,457	62.8	2,193,899	821,684	1,123,588	829,821
Atchison, Topeka & Santa Fe System	Dec.	13,081	36,922,265	4,457,610	46,091,818	7,110,277	9,025,184	929,063	16,221,121	35,060,268	76.07	11,031,550	5,774,326	5,090,814	6,420,839
	12 mos.	13,081	427,135,073	53,244,058	526,733,746	78,932,766	92,113,932	11,376,677	184,047,215	387,510,698	73.57	139,223,048	69,090,015	68,715,752	54,302,422
Atlanta & St. Andrews Bay	Dec.	82	189,276	1,522	199,872	38,265	15,554	7,518	46,489	97,300	48.7	102,572	25,286	60,742	49,940
	12 mos.	82	2,300,279	20,423	2,407,618	312,008	190,804	76,401	604,516	1,291,729	53.7	1,115,889	388,089	496,407	329,112
Atlanta & West Point	Dec.	93	252,397	63,485	365,441	44,307	59,866	15,066	205,430	349,287	95.6	16,154	15,806	—23,294	87,566
	12 mos.	93	3,395,083	625,978	4,568,673	504,501	617,970	167,368	2,254,516	3,812,883	83.5	755,790	375,433	141,284	87,518
Western of Alabama	Dec.	133	249,876	60,586	351,714	59,701	76,502	14,449	165,710	337,896	96.1	13,818	—727	19,876	22,304
	12 mos.	133	3,436,221	615,584	4,483,312	517,900	720,163	166,276	1,931,729	3,580,460	79.9	902,852	468,988	427,371	262,853
Atlantic Coast Line	Dec.	5,562	8,947,469	1,949,853	11,823,089	2,086,985	2,074,123	349,115	5,250,016	10,346,947	87.5	1,477,032	450,000	869,633	1,475,931
	12 mos.	5,570	106,370,606	19,971,667	136,336,690	25,778,838	24,250,288	3,594,042	58,514,254	118,287,514	86.8	18,049,176	10,300,000	5,126,754	3,049,642
Charleston & Western Carolina	Dec.	343	407,345	5,766	423,203	42,783	84,868	15,292	162,989	317,502	75.0	105,701	.....	98,325	113,768
	12 mos.	343	4,914,294	61,430	5,110,996	838,678	918,474	174,239	2,037,785	4,101,339	80.2	1,009,657	355,000	533,243	360,680
Baltimore & Ohio	Dec.	6,201	27,105,234	2,335,023	31,253,801	3,540,078	6,616,667	801,876	14,331,111	26,816,401	85.8	4,437,400	2,040,762	2,397,241	2,742,241
	12 mos.	6,192	353,289,835	24,593,016	400,190,447	48,836,912	82,114,131	8,725,049	167,832,456	324,221,226	81.0	75,969,221	30,628,316	43,110,013	29,099,949
Staten Island Rapid Transit	Dec.	29	193,094	63,055	263,249	82,535	36,204	2,247	154,284	309,044	117.4	—45,795	33,319	—99,297	—101,385
	12 mos.	29	2,299,138	1,112,082	3,574,078	704,860	490,611	21,912	1,846,565	3,419,880	95.7	154,198	450,366	—544,393	—671,400
Bangor & Aroostook	Dec.	602	1,808,177	48,338	1,899,230	317,243	274,444	13,720	396,368	1,051,034	55.3	848,196	427,907	395,867	262,282
	12 mos.	602	14,509,344	576,846	15,539,749	3,000,396	2,393,448	112,284	4,049,587	10,095,140	65.0	5,444,609	2,646,740	2,913,380	1,655,920
Bessemer & Lake Erie	Dec.	214	1,270,355	1,629	1,298,660	202,318	703,188	27,375	609,214	1,647,548	126.9	—348,888	—276,062	179,484	20,536
	12 mos.	214	26,191,477	18,216	26,415,941	2,025,010	7,156,867	236,432	5,991,912	16,307,859	61.7	10,108,082	5,409,509	7,828,302	7,580,819
Boston & Maine	Dec.	1,757	5,877,946	1,199,936	7,789,242	1,505,873	1,327,417	119,338	3,541,747	6,789,070	87.2	1,000,172	—378,252	993,124	641,118
	12 mos.	1,757	70,836,876	14,863,672	94,165,928	15,605,032	14,248,582	1,261,458	38,965,356	73,742,349	78.3	20,423,579	7,737,357	8,270,759	5,930,518
Burlington-Rock Island	Dec.	228	296,721	62,603	386,830	41,484	29,801	4,621	178,201	276,979	71.6	109,851	9,660	38,888	28,584
	12 mos.	228	3,757,718	657,964	4,677,813	594,300	472,576	55,595	1,908,061	3,273,936	70.0	1,403,877	117,964	650,225	185,667
Cambria & Indiana	Dec.	35	158,994	.....	159,034	28,634	75,311	7,316	41,901	161,806	101.74	—2,772	50,684	61,122	16,733
	12 mos.	35	1,563,622	.....	1,564,222	155,847	982,811	9,500	303,534	1,554,291	99.36	9,931	747,031	654,408	460,419
Canadian Pacific Lines in Maine	Dec.	234	719,552	32,580	778,491	70,239	109,336	7,128	287,828	490,294	63.0	288,197	28,759	175,514	2,643
	12 mos.	234	5,147,889	439,270	5,879,069	1,067,779	892,030	86,243	2,387,732	4,588,933	78.1	1,290,136	281,854	185,351	—110,477
Canadian Pacific Lines in Vermont	Dec.	90	174,426	13,932	199,633	39,895	38,168	5,105	149,137	240,337	120.4	—40,704	13,983	—105,786	—114,814
	12 mos.	90	1,982,742	210,508	2,408,305	601,918	438,160	61,803	1,838,185	3,025,401	125.6	—617,096	160,579	—1,325,995	—1,311,226
Central of Georgia	Dec.	1,815	2,581,388	286,273	3,201,159	445,241	496,526	102,220	1,557,231	2,770,942	86.6	430,217	120,834	271,241	276,559
	12 mos.	1,815	31,557,077	3,056,688	37,805,610	5,819,759	6,095,127	1,231,993	17,739,061	32,878,688	87.0	4,926,922	2,564,812	2,029,762	—361,985
Central of New Jersey	Dec.	415	2,740,700	521,487	3,535,008	863,466	628,996	55,917	1,851,573	3,734,583	105.6	—199,575	331,960	—806,999	—771,216
	12 mos.	417	33,342,002	6,486,319	42,736,240	6,992,725	7,110,612	654,094	21,075,183	38,223,162	89.4	4,513,078	4,705,208	—3,885,791	—4,923,101
Central of Pennsylvania	Dec.	212	1,611,201	18,978	1,688,222	158,613	310,899	25,409	587,225	1,136,799	67.3	551,423	74,423	755,483	727,733
	12 mos.	213	20,199,252	214,033	20,907,113	1,859,145	3,709,917	284,849	6,510,707	12,887,173	61.6	8,019,940	835,893	10,382,352	8,076,954
Central Vermont	Dec.	422	822,169	69,995	958,435	112,253	161,085	24,723	356,553	694,035	72.4	264,400	41,740	165,671	89,865
	12 mos.	422	9,088,169	787,995	10,561,435	1,623,533	1,806,642	179,173	4,374,895	8,439,509	79.9	2,121,926	537,212	942,321	439,635
Chesapeake & Ohio	Dec.	5,098	23,853,370	1,077,372	25,997,141	2,822,577	6,087,881	640,979	10,526,551	21,399,898	82.3	4,597,243	3,120,429	1,897,029	2,130,811
	12 mos.	5,078	307,999,810	11,523,952	334,555,154	47,440,968	63,004,965	8,076,524	120,182,271	253,899,635	75.9	80,655,519	40,740,502	45,448,383	42,615,152
Chicago & Eastern Illinois	Dec.	909	2,114,769	417,634	2,811,132	370,968	463,218	108,517	1,208,236	2,314,578	82.3	496,554	134,780	225,239	1,865,549
	12 mos.	909	25,737,147	3,821,339	32,625,027	4,139,989	6,033,857	1,208,711	13,691,457	26,716,935	81.9	5,908,092	2,236,280	2,216,509	2,285,042
Chicago & Illinois Midland	Dec.	131	855,857	986	891,190	65,552	112,948	24,188	220,836	460,095	51.6	431,095	180,520	246,821	232,549
	12 mos.	131	9,551,446	10,877	9,813,069	1,071,444	1,539,732	293,470	2,369,979	5,680,352	57.9	4,132,717	1,710,210	2,411,740	1,667,558
Chicago & North Western	Dec.	8,076	11,625,597	2,225,932	15,805,989	1,948,896	2,960,903	299,811	7,516,584	13,539,695	85.7	2,266,294	1,497,908	608,753	1,157,663
	12 mos.	8,061	148,456,455	25,742,906	195,019,864	29,702,037	35,638,087	3,672,172	86,964,396	165,487,170	84.9	29,532,694	15,617,006	10,010,400	8,458,006
Chicago, Burlington & Quincy	Dec.	8,714	15,983,252	1,780,010	19,821,229	3,140,107	2,565,102	385,102	7,302,255	14,091,626	71.1	5,729,603	3,250,167	2,097,408	3,103,039
	12 mos.	8,814	199,341,245	20,198,853	241,363,651	37,260,444	34,365,642	4,691,910	83,366,308	167,888,010	69.6	73,475,641	35,912,048	32,737,495	31,780,908
Chicago Great Western	Dec.	1,500	2,938,635	70,119	3,251,663	662,207	425,842	110,055	1,336,963	2,645,374	81.4	606,289	151,710	244,216	306,408
	12 mos.	1,500	32,447,536	677,945	35,689,758	5,396,362	4,156,058	1,206,651	14,371,442	26,293,508	73.7	9,396,250	3,348,396	3,598,774	2,388,828
Chicago, Indianapolis & Louisville	Dec.	541	1,336,861	120,995	1,551,051	378,324	257,173	103,606	640,838	1,468,711	94.7	82,340	64,154	—60,688	173,232
	12 mos.	541	16,625,699	1,238,057	19,055,141	3,310,323	2,703,419	975,847	7,381,076	15,487,355	81.3	3,567,786	905,388	1,476,573	444,115
Chicago, Milwaukee, St. Paul & Pacific	Dec.	10,671	16,807,069	2,040,847	20,934,495	2,948,077	4,178,612	450,566	9,534,917	18,086,677	86.4	2,847,818	1,618,000	854,263	2,393,784
	12 mos.	10,671	208,721,239	21,650,584	254,982,710	39,233,215	45,070,232	4,856,384	109,827,088	210,276,587	82.5	44,706,123	21,265,000	15,514,415	16,812,176
Chicago, Rock Island & Pacific	Dec.	7,631	12,651,869	2,258,747	16,381,076	1,581,253	2,328,337	465,268	6,090,139	11,161,196	68.1	5,219,880	2,474,654	2,130,638	2,223,989
	12 mos.	7,645	158,949,771	23,285,081	197,404,990	24,423,476	29,291,558	5,331,402	75,439,717	143,163,106	72.5	54,241,884	23,374,458	21,891,753	21,255,374
Chicago, St. Paul, Minn. & Omaha	Dec.	1,617	2,584,853	242,435	3,058,859	323,888	348,547	60,539	1,444,269	2,298,891	75.2	759,968	179,521	464,439	529,732
	12 mos.	1,617	28,816,692	2,643,347	34,238,852	4,830,541	5,098,527	685,922	16,252,057	28,298,814	82.7	5,940,038	2,202,819	1,960,144	1,625,278
Clinchfield	Dec.	317	1,448,421	6,181	1,467,608	191,955	293,638	35,116	431,721	983,445	67.0	484,163	115,706	438,356	683,874
	12 mos.	317	19,090,222	68,206	19,312,071	1,770,508	3,358,326	389,402	5,779,144	11,657,852	60.4	7,654,219	1,906,751	6,850,014	6,826,248
Colorado & Southern	Dec.	745	936,743	110,026	1,164,158	85,782	128,608	24,465	477,317	765,603	65.8	398,555	213,799	154,150	145,087
	12 mos.	745	11,446,396	1,070,880	13,752,371	2,040,610	2,268,071	286,838	5,816,597	11,023,448	80.2	2,728,923	1,538,416	826,776	699,039
Ft. Worth & Denver City	Dec.	902	1,263,135	137,122	1,532,787	156,503	163,067	41,966	529,128	968,716	63.2	564,071	171,698	342,931	340,542
	12 mos.	902	13,582,580	1,737,127	16,582,258	2,288,595	2,163,076	472,937	6,030,053	11,835,886	71.4	4,746,372	1,583,031	2,478,709	2,217,621

Table continued on next left-hand page

Tunnel No. 5, 3,260 ft. long, west of Gould, will be modernized at a cost of $815,000. Additional trackage will be constructed east of the present tunnel. Tunnel No. 6, 472 ft. long, will be replaced with a cut at a cost of $1,828,500. Tunnels Nos. 7 and 8, 15 mi. west of Steubenville, also are to be by-passed by construction of a new line at a cost of $3,295,100. Work at the fifth tunnel, No. 10, 1,420 ft. long and located west of Bowerston, will include new alinement of track and construction of a new 900-ft. tunnel.

The five tunnels were constructed many years ago when freight equipment was much smaller than that in use today. As a result, the use of modern box cars of the larger types, and open loads of the high and wide variety, have been restricted, necessitating detours.

RAILWAY OFFICERS

EXECUTIVE

Walter H. Evans, whose retirement as vice-president and general manager of the Sacramento Northern at San Francisco, Cal., was reported in the *Railway Age* of December 25, 1948, was born on April 14, 1883, at Denver, Colo. He attended Stanford and Cornell Universities, graduating from the latter in 1906. He entered railroad service in July, 1906, with the Central California Traction Company at Stockton, Cal., in the engineering department. From 1909 to 1914, he served in various engineering capacities with the Southern Pacific. Mr. Evans was subsequently employed by the S. N. as electrical engineer, and in 1946 was appointed vice-president and general manager.

Eugene B. Finegan, whose retirement as vice-president of the Chicago, Milwaukee, St. Paul & Pacific at Chicago, was reported in the *Railway Age* of December 11, 1948, was born at Iron Ridge, Wis. He attended high school at Hudson, Wis., and entered railway service there in September, 1899, in the machine shop of the Chicago, St. Paul, Minneapolis & Omaha. He later served in the master car builder's office, and in 1903 he was employed as a stenographer and clerk in the office of the general agent of the Great Northern at St. Paul, Minn. In May, 1904, he entered the service of the Milwaukee Road at St. Paul as a clerk and stenographer in the commercial agent's office. From November, 1906, to April, 1916, he held successively the positions of chief clerk, to the assistant general freight agent, the general freight agent, the traffic manager and the vice-president at Chicago. Mr. Finegan was appointed chief of the tariff bureau in April, 1916, and in February of the next year he was made assistant general freight agent, advancing to general freight agent in April, 1922. He served as assistant freight traffic manager from 1925 to 1927, when he was promoted to freight traffic manager, a position he held until May, 1938, when he became assistant chief traffic officer. The following November he was advanced to chief traffic officer at Chicago, and in December, 1945, he was elected vice-president—traffic. On February 1, 1948, Mr. Finegan relinquished his post as traffic vice-president, becoming vice-president with duties as assigned by the president, which position he was holding at the time of his retirement.

Eugene B. Finegan

J. G. Morrison, whose retirement as vice-president in charge of traffic of the Northern Pacific at St. Paul, Minn., was reported in the *Railway Age* of December 25, 1948, was born on December 9, 1878, at Amboy (Lee county), Ill., and was educated in the public schools of Minneapolis, Minn., and Watertown, S. D. Mr. Morrison entered railroad service in 1893 as a messenger with the Minneapolis & St. Louis, and the following year joined the St. Paul & Duluth (now N. P.) as a clerk. He became associated with the Chicago Great Western in 1897, serving successively as clerk, chief rate clerk and chief clerk in the general freight department. He was advanced to assistant general freight agent in 1909, and later became assistant to the vice-president of the C. G. W. During the period of federal control, Mr. Morrison was assistant secretary of the Western Freight Traffic Commission of the United States Railroad Administration. He became assistant general freight agent of the Northern Pacific in 1920, and was advanced to general freight agent in 1925, to freight traffic manager in 1937 and to general freight traffic manager in 1940. Mr. Morrison left the railroad in July, 1947, to engage in traffic association work, returning to the N. P. in December, 1947, as assistant vice-president—traffic. He was promoted to vice-president in charge of traffic in October, 1948, and was serving in this position at the time of his retirement.

J. G. Morrison

Harold G. Powell, whose resignation as vice-president and treasurer of the Illinois Terminal at St. Louis, Mo., and subsequent appointment as executive representative to the president, was reported in the *Railway Age* of January 1, was born on July 3, 1874, at Pocahontas, Ill. He attended school at Upper Alton, Ill., and Haywards Business College, entering railway service in 1895 as a stenographer for the Lackawanna Fast Freight Lines at St. Louis. The next year he joined the Chicago, Burlington & Quincy, serving successively as stenographer, rate clerk and assistant chief clerk. He was employed by the Illinois Central in 1900 as chief clerk at Salt Lake City, Utah, and subsequently served as traveling freight agent, contracting agent, commercial agent, division freight agent and assistant general freight agent. He first entered I. T. service in 1921 as traffic manager, advancing to general traffic manager in 1929 and to vice-president—traffic in 1933. Mr. Powell was elected vice-president and treasurer in December, 1945.

J. H. M. Clinch, whose election as president of the Chicago, North Shore & Milwaukee at Chicago was reported in the *Railway Age* of December 25, 1948, was born on August 18, 1902, at Danville, Ill., and attended the University of Illinois, the University of Chicago and John Marshall Law School. He entered service with the North Shore and the Chicago Rapid Transit Company in April, 1925, in the treasurer's office at Chicago. In August, 1925, he was appointed secretary to the general manager at Highwood, Ill., and in January, 1926, he became secretary to the vice-president at Chicago. From 1928 to 1941, he served as secretary and treasurer of the subsidiary motor coach companies and as assistant to the vice-president at Chicago. Mr. Clinch subsequently served in various posts

with the North Shore, the Chicago Rapid Transit and the Chicago, Aurora & Elgin, advancing in November, 1946, to secretary and treasurer of the North Shore at Chicago. In September, 1947, he also assumed the office of vice-president, with the same headquarters. Mr. Clinch was appointed acting president in November, 1948, which position he held at time of his election as president.

A. J. Lomas, general manager of the Central region of the Canadian National, has been appointed vice-president of that region, with headquarters as before at Toronto, Ont., succeeding the late **J. F. Pringle.** A photograph and biography of Mr. Lomas were published in the *Railway Age* of April 17, 1948, page 791.

W. W. Byam, supervisor of wages of the Grand Trunk Western at Detroit, Mich., has been appointed assistant to vice-president and general manager—labor relations, with the same headquarters. His former position has been abolished.

FINANCIAL LEGAL & ACCOUNTING

H. T. Lively, whose appointment as general solicitor of the Louisville & Nashville at Louisville, Ky., was reported in *Railway Age* December 25, 1948, is a native of Hart County, Ky., and is a graduate of Bowling Green Business University. He entered railway service with the L. & N. in 1907, as a stenographer and clerk in the office of the superintendent of terminals at Louisville, subsequently serving as law agent.

H. T. Lively

He was appointed chief clerk in the claims division of the law department in 1918, and two years later became freight claim agent, advancing to general claim agent in 1922. Mr. Lively was promoted to district attorney for the states of Kentucky and Virginia in June, 1938, and was further advanced to general attorney in March, 1944, which position he held at the time of his appointment as general solicitor.

Charles A. Glaser, whose appointment as auditor of disbursements of the Delaware, Lackawanna & Western at New York was reported in the *Railway Age* of December 25, 1948, was born on September 8, 1892, at New York, where he attended elementary and high schools. Mr. Glaser entered the service of the Lackawanna on September 26, 1912, as clerk at Harlem Transfer, New York. On August 12, 1915, he was transferred to the accounting department, being promoted to special accountant on September 1, 1920. In October, 1937, he organized and became manager of the railroad's central accounting bureau at Hoboken, N. J. He was promoted to supervisor of contracts and insurance at New York on July 1, 1938, which position he occupied until his recent appointment as auditor of disbursements.

John F. Jeckel, whose retirement as auditor of disbursements of the Delaware, Lackawanna & Western at New York was reported in the *Railway Age* of December 25, 1948, entered the service of the Lackawanna on August 26, 1898, in the department of the auditor of freight and ticket accounts. On January 1, 1908, Mr. Jeckel was transferred to the office of miscellaneous accounts and on April 1, 1909, to the general auditing department, where he remained until October, 1918, when he became auditor of miscellaneous accounts. In August, 1941, he was appointed auditor of disbursements, the position he held until his retirement.

C. E. Nottingham, whose election as general auditor of the Fort Worth & Denver City and the Wichita Valley at Fort Worth, Tex., was reported in the *Railway Age* of December 18, 1948, was born on December 23, 1889, at Humansville, Mo., and attended public schools in that state and in Texas. He entered railway service in 1910 with the F. W. & D. C. and the W. V. at Fort Worth, and held various positions in the accounting department until January, 1914, when he became rate and division clerk with the Chicago, Rock Island & Gulf at the same point. In April, 1917, Mr. Nottingham left the C. R. I. & G. to serve in the Quartermaster Corps at St. Louis, Mo., as transportation clerk. In September of the same year he joined the Texas & New Orleans at Houston, Tex., as rate clerk, returning to the C. R. I. & G. at Fort Worth in October, 1919, as chief clerk in the accounting department. He was made traveling auditor and chief clerk of the Wichita Falls, Ranger & Fort Worth at Ranger, Tex., in April, 1920, and the following January returned to the F. W. & D. C. and the W. V. as special accountant, advancing to chief clerk to the general auditor in April, 1925. Mr. Nottingham was appointed land and tax commissioner in April, 1943, and auditor in October, 1944. He was appointed acting general auditor of the two roads in November, 1948, which position he held at the time of his election as general auditor.

Merle W. White, whose appointment as general claim agent in the law department of the Minneapolis & St. Louis at Minneapolis, Minn., was reported in the *Railway Age* of December 11, 1948, was born on June 15, 1902, at River Falls, Wis. He served as claim

Merle W. White

manager of the New Amsterdam Casualty Company at Minneapolis for 18 years and entered railway service on July 1, 1944, as claims adjuster of the M. & St. L. at Albert Lea, Minn. Mr. White was serving in the latter capacity at the time of his recent appointment as general claim agent.

TRAFFIC

L. P. Dooley, chief clerk of the Chicago office of the Canadian Pacific, has been appointed district passenger representative at Atlanta, Ga.

William C. Boswell, commercial agent of the Atlantic Coast Line at Lake Wales, Fla., has been appointed general agent, having jurisdiction over the territory between Moore Haven, Fla., and Lake Harbor, with headquarters at Clewiston, Fla.

E. A. Compton, whose promotion to western traffic manager of the Illinois Terminal at San Francisco, Cal., was reported in the *Railway Age* of December 18, 1948, began his railroad career as an office boy for the president of the Southern Pacific Lines in Texas and Louisiana. He later worked in various departments in the general office at Houston, Tex., and during World War I served in the United States Navy. Following the war, Mr. Compton worked in the traffic department of the Mid-Continent Petroleum Company and for the Charles F. Noble Oil & Gas Co., advancing to traffic manager with the latter company. At the time of the depression he resigned that post to become traffic manager and assistant to

the wholesale sales manager of the H. F. Wilcox Oil & Gas Co. Several years later he re-entered railroad service as commercial agent for the I. T. at Tulsa, Okla., and advanced to general agent at Dallas, Tex., and to traffic manager at St. Louis, Mo. Mr. Compton subsequently returned to Dallas as general southwestern agent, which position he held at the time of his recent promotion.

B. W. Hanson, whose promotion to manager of industrial development for the Union Pacific in Utah, Idaho, Colorado, Wyoming and Montana, with headquarters at Salt Lake City, Utah, was reported in the *Railway Age* of January 1, began his railway career in 1911 as a traveling agent of the Chicago & North Western at Salt Lake City. During World War I he served with the United States Railroad Administra-

B. W. Hanson

tion at Washington, D. C., and Portland, Ore. In 1920 he became freight traffic representative of the Missouri Pacific at Los Angeles, Cal., and entered U. P. service in 1923 at Salt Lake City as a statistician. He subsequently advanced through various positions at the latter point, and in 1941 was appointed traffic manager, which position he held at the time of his recent promotion.

N. L. Cullum, assistant general agent of the Chicago & Eastern Illinois at Houston, Tex., has been promoted to general agent at that point, succeeding the late **T. M. Curtis.**

A. S. Taylor, general freight agent, rates and tariffs, of the Illinois Terminal at St. Louis, Mo., has been promoted to freight traffic manager, sales and service, at that point.

LeRoy E. Fuller, Umatilla County (Ore.) extension agent, with headquarters at Hermiston, Ore., will become agricultural agent of the Union Pacific at Boise, Ida., on March 1, succeeding **L. H. Wagner,** who has resigned to enter the farm machinery business at Gooding, Ida.

Austin Hildreth, whose promotion to assistant to the freight traffic manager of the Southern at Cincinnati, Ohio, was reported in the *Railway Age* of December 25, 1948, was born on December 15, 1889, in that city. He entered railroad service in May, 1905, as a messenger in the freight office of the Pennsylvania at Cincinnati, and in October, 1911, joined the Southern at that point as a clerk in the freight office. He subsequently held various clerical posi-

Austin Hildreth

tions in the same office and advanced to chief clerk in the district freight office in April, 1922. In June, 1925, he was appointed freight traffic representative at Cincinnati, and in October of the same year became chief clerk to the freight traffic manager. He was advanced to assistant general freight agent at Cincinnati in September, 1937, and served in that post continuously until his recent promotion to assistant to the freight traffic manager.

Leon J. Marion, general agent of the Erie at San Francisco, Cal., has been appointed assistant general freight agent at Detroit, Mich., succeeding **H. G. Cooke,** deceased. **Edwin W. Keiley,** division freight agent at Elmira, N. Y., has been promoted to general agent at San Francisco, replacing Mr. Marion. **Herbert C. Well,** general agent at Springfield, Ohio, has been appointed division freight agent at Rochester, N. Y., succeeding **Frank K. Corlett,** who has been transferred to Elmira, to succeed Mr. Keiley. **Wilbur W. Thoms,** secretary to the executive vice-president at Cleveland, Ohio, has been promoted to general agent at Springfield, replacing Mr. Well.

OPERATING

Henry F. Martin, acting superintendent of mine service of the Atlantic Coast Line at Mulberry, Fla., has been appointed superintendent of terminals t Port Tampa, Fla.

H. W. Wortham has been appointed trainmaster of the Illinois Central at Memphis, Tenn., succeeding **G. O. Armstrong,** who has been relieved at his own request.

Roderick G. Murchison, whose appointment as superintendent terminals of the Richmond district of the Atlantic Coast Line at Rocky Mount, N. C., was reported in the *Railway Age* of January 1, was born in Chatham county, N. C., on January 6, 1885. Mr. Murchison entered railroad service on July 1, 1900, as a messenger boy with the Atlantic Coast Line at Fayetteville, N. C.,

Roderick G. Murchison

subsequently serving successively as yard clerk at South Rocky Mount; trainman, conductor and assistant trainmaster on the Fayetteville district; assistant trainmaster at Rocky Mount; and trainmaster at Portsmouth, Va., and Rocky Mount. Mr. Murchison was appointed superintendent of the Richmond district at Rocky Mount on August 20, 1934, which position he held until his recent appointment.

MECHANICAL

A. G. Greenseth, whose promotion to general mechanical superintendent of the Minneapolis, St. Paul & Sault Ste. Marie at Minneapolis, Minn., was reported in the *Railway Age* of January 15, entered railroad service in 1903 as an apprentice machinist for the Great Northern at Superior, Wis. He later served successively as a machinist with the Chicago Great Western at Clarion, Iowa, with the Soo Line at Minneapolis, with the G. N. at Superior, and again with the Soo Line at Enderlin, N. D. In 1913 he became roundhouse foreman for the Soo Line at Bismarck, N. D., and subsequently held that post at Thief River Falls, Minn., until World War I, when he entered the Russian military service. After the war he returned to the Soo Line at Thief River Falls, and in 1923 was made roundhouse foreman at Minneapolis. The next year he became master mechanic at Enderlin, transferring to Fond du Lac, Wis., in 1927. Mr. Greenseth was appointed assistant mechanical superintendent at Minneapolis in 1939, and in 1944 he was

advanced to mechanical superintendent there, the post he held at the time of his promotion to general mechanical superintendent.

H. L. Price, master mechanic of the Atchison, Topeka & Santa Fe at Chicago, has been appointed superintendent of shops at Albuquerque, N. M., succeeding **G. R. Miller,** who has retired. **Harold F. Mackey,** supervisor of diesel engines at Chicago, has been appointed master mechanic at Clovis, N. M., succeeding **G. C. Kistner,** who has been appointed assistant shop superintendent at Albuquerque. Mr. Mackey has been replaced by **Walter L. Huebner,** day roundhouse foreman at Barstow, Cal. **Thomas T. Blickle,** master mechanic at Dodge City, Kan., has been transferred to Chicago, and has been succeeded by **E. B. Wood,** general foreman in the locomotive department at San Bernardino, Cal.

Eric Wynne, whose appointment as general superintendent of motive power and car equipment of the Atlantic region of the Canadian National at Moncton, N. B., was reported in the *Railway Age* of January 15, was born in Stafford, England. He joined the mechanical department of the Grand Trunk (Canadian National) at Melville, Sask., as a call boy, later becoming a machinist apprentice. In March, 1921, he was promoted to machinist at Edmonton, Alta., and after serving as machinist, acting foreman, ledgerwood operator and locomotive foreman at McBride, B. C., Mr. Wynne was transferred to the Fort Rouge shops at Winnipeg, Man. In June, 1936, he was appointed engine inspector and in February, 1942, became supervisor of special work. He was promoted to mechanical inspector for the system in January, 1943, with headquarters at Montreal, and in August of the same year became mechanical engineer, shop methods, which position he held until his recent appointment as general superintendent of motive power and car equipment for the Atlantic region.

ENGINEERING & SIGNALING

Frank R. Woolford, whose appointment as engineer maintenance of way and structures of the Western Pacific at San Francisco, Cal., was reported in the *Railway Age* of December 25, 1948, was born on August 14, 1901, at Little Rock, Ark. He attended the Georgia School of Technology from 1920 to 1924, and entered railroad service on September 1, 1924, as a rodman for the Missouri Pacific at Little Rock and other points. He became an instrumentman in November, 1925, and from May, 1930, to February, 1935, served successively as engineer of accounts at St. Louis Mo., and Little Rock, and as instrumentman. He was subsequently appointed assistant engineer and roadmaster at Bonne Terre, Mo., and in September, 1935, was made track supervisor at Dupo, Ill., and later at St. Louis. He became roadmaster at Eldorado, Ark., in June, 1939, and in August, 1942, he left the road to serve in the United States Army with the 759th Railway operating Battalion in the European theatre. In January, 1946, Mr. Woolford returned to the M. P. as division engineer for the Missouri and Memphis divisions, with headquarters at Poplar Bluff, Mo., and in June, 1948, was promoted to assistant superintendent of the Joplin-White River divisions at Nevada, Mo. He was serving in the latter position at the time of his appointment as engineer maintenance of way and structures for the W. P.

Claude A. Combs, whose retirement as engineer maintenance of way and structures of the Western Pacific at San Francisco, Cal., was reported in the *Railway Age* of December 25, was born on October 15, 1881, at Red Bluff, Cal. After graduating from high school in 1898, he continued his education in special courses, and in May, 1900, entered railroad service in the operating department of the Southern Pacific at Sacramento, Cal. From April, 1903, to May, 1907, he served successively as rodman, inspector, draftsman and instrumentman. He subsequently became superintendent of construction for the Nevada Northern at Ely, Nev., and in April, 1908, joined the Copper River & Northwestern at Valdez, Alaska, as an instrumentman. He next served with the Northwestern Pacific successively as assistant engineer and division engineer on construction, with headquarters at San Francisco, and returned to the S. P. in January, 1916, as assistant engineer on maintenance at Fresno, Cal. The next year he was made a resident engineer on construction for the Atchison, Topeka & Santa Fe, with headquarters at Chicago. He first entered the service of the W. P. in January, 1924, as assistant engineer at San Francisco, advancing later to division engineer and to general supervisor of bridges and buildings. Mr. Combs was appointed engineer maintenance of way and structures in December, 1943.

W. C. McCormick, roadmaster of the Carolina division of the Seaboard Air Line, has been promoted to general roadmaster, with jurisdiction north and west of Savannah, Ga., with headquarters as before at Savannah.

SPECIAL

Carl L. Johnson, assistant advertising agent of the Reading, has been appointed advertising agent, with headquarters as before at Philadelphia, Pa., succeeding **William S. Davis,** who has retired after almost 44 years with the Reading.

OBITUARY

James F. Pringle, vice-president of the Central region of the Canadian National at Toronto, Ont., died on February 8 of coronary thrombosis. Mr. Pringle was born at Cornwall, Ont., on June 3, 1885, and received his B. A. degree in 1905 and his B.Sc. degree in 1907 from Queen's University, Kingston, Ont. He entered railroad service in 1907 as instrumentman and resident engineer on construction of the National Transcontinental Line (now C.N.R.), then serving until 1915 as assistant engineer of construction, Welland ship canal. After military service during World War I with the Canadian Engineers, he returned to the C.N.R. and served as assistant engineer and transportation engineer, becoming assistant general superintendent transportation at Toronto in 1925. From 1930 to 1932 he was engaged in the reorganization of the National of Mexico, returning to the C.N.R. in 1932 as general superintendent transportation at Toronto. He was appointed general superintendent of the Southern Ontario district at Toronto in 1936, subsequently becoming chief of transportation at Montreal, Que.; general manager of the Atlantic region at Moncton, N. B.; and vice-president and general manager of the Atlantic region at Moncton. In 1944 he was appointed vice-president and general manager of the Central region at Toronto, relinquishing the title of general manager last year.

William S. Wollner, general baggage agent of the Northwestern Pacific at San Rafael, Cal., and secretary and executive vice-president of the Pacific Railway Club, died at San Rafael on February 5. Mr. Wollner, 66, began his railroad service with the Southern Pacific in 1902. He organized the Pacific Railway Club in 1917 and served continuously as its secretary until the time of his death.

P. J. Colligan, who retired in 1936 as general superintendent of motive power for the Chicago, Rock Island & Pacific at Kansas City, Mo., died recently at his home in Moline, Ill., after a brief illness.

T. M. Curtis, general agent of the Chicago & Eastern Illinois, at Houston, Tex., died recently in that city.

Harold W. Tinker, field engineer, insurance and fire protection department, of the New York Central, with headquarters at New York, died on February 5 in that city, following a heart attack suffered several days earlier.

W. S. Moseley, assistant to the general manager of the Clinchfield, with headquarters at Erwin, Tenn., was killed in a grade crossing accident at Hawthorne, Fla., on February 12.

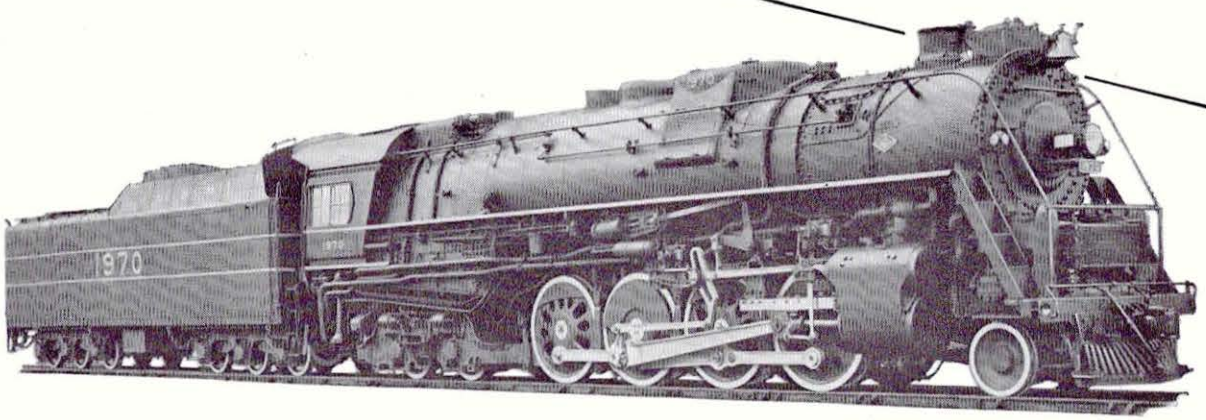
More Boosters®

for the

LOUISVILLE AND NASHVILLE

The 22 new 2-8-4's built by Lima-Hamilton for the Louisville and Nashville Railroad Company are equipped with Type E-1 Boosters.

These locomotives, designed for freight service, have a rated tractive effort of 65,290 lb — with an additional 14,000 lb supplied by the Boosters. The Booster increases the tractive effort of the main engine by 21.5% — which can be directly translated into greater tonnage per train — and lower ton-mile costs.



The Booster is one of several Franklin products which can be applied to new and existing locomotives to increase capacity or reduce operating costs.

FRANKLIN RAILWAY SUPPLY COMPANY

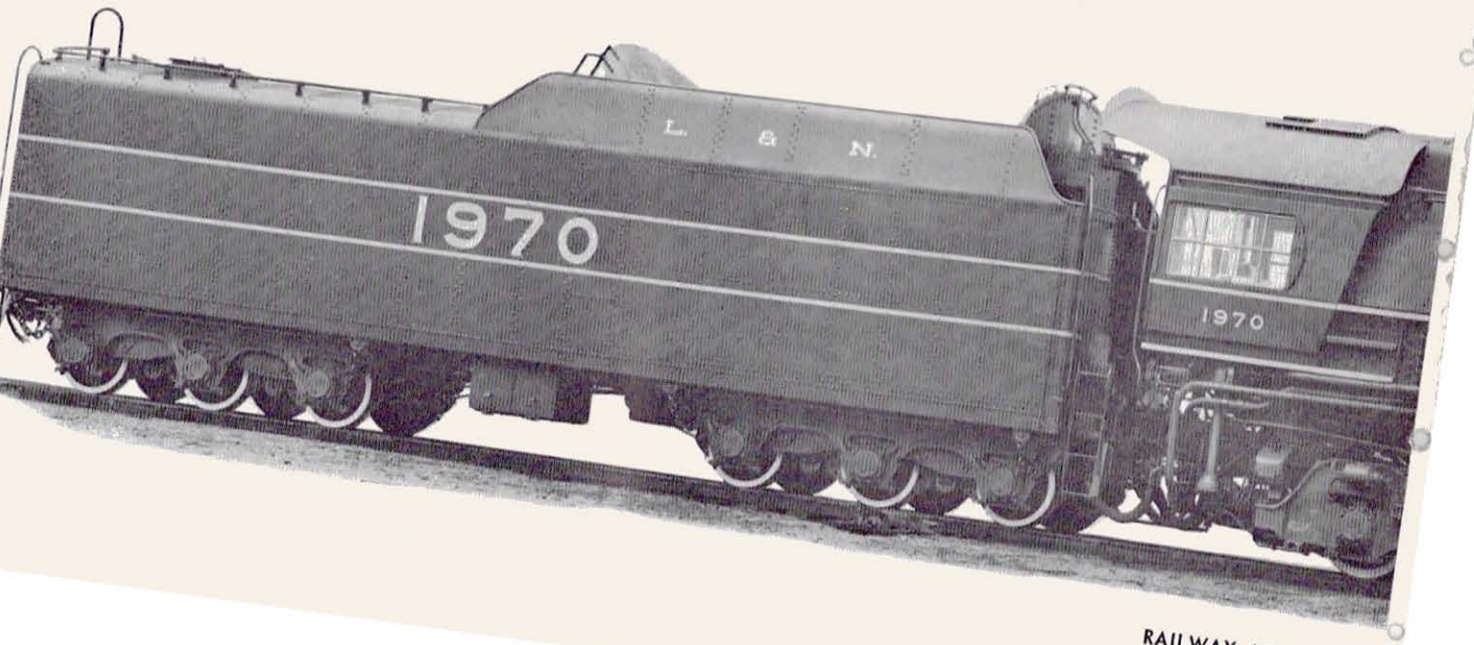
A CORPORATION

NEW YORK • CHICAGO • MONTREAL

STEAM DISTRIBUTION SYSTEM • BOOSTER • RADIAL BUFFER • COMPENSATOR AND SNUBBER • POWER REVERSE GEARS
AUTOMATIC FIRE DOORS • DRIVING BOX LUBRICATORS • STEAM GRATE SHAKERS • FLEXIBLE JOINTS • CAR CONNECTION

22 for the L&N

by LIMA-HAMILTON



Some pertinent data:

We are now delivering an order of 22 locomotives of the 2-8-4 type to the Louisville and Nashville Railroad Co.

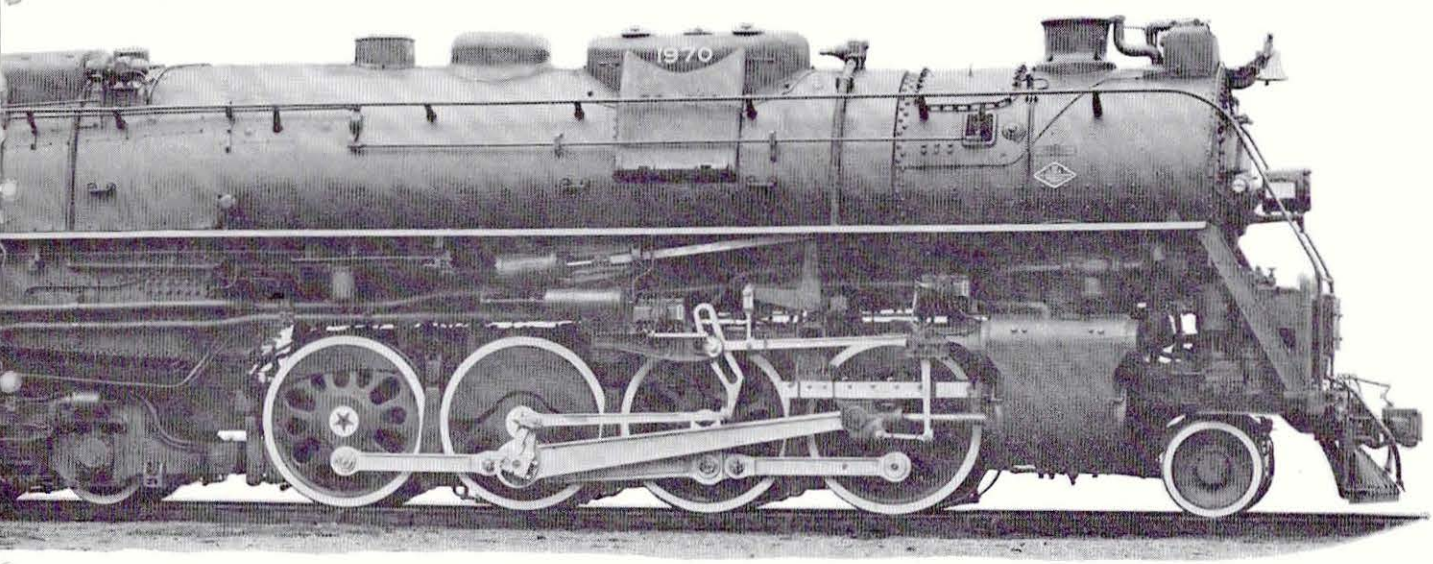
Modern steam locomotives like these will show a good return on their investment. With planned scheduling, they can deliver more ton-miles of freight per dollar of investment than any other type of locomotive.

Class M-1
Service: Freight
Road Nos.: 1970-1991
Tractive Force, with Booster: 79,290 lb
Cylinders: 25" x 32"
Drivers, Diameter: 69"
Weight on Drivers: 267,500 lb
Weight on Front Trucks: 52,900 lb
Weight on Trailing Truck: 127,700 lb
Total Weight of Engine: 448,100 lb
Fuel: Soft Coal
Grate Area: 90 sq ft
Steam Pressure: 265 lb
Tender Capacity: 22,000 gal 25 tons

LIMA HAMILTON CORPORATION

DIVISIONS: *Lima, Ohio* — Lima Locomotive Works Division; Lima Shovel and Crane Division. *Hamilton, Ohio* — Hooven, Owens, Rentschler Co.; Niles Tool Works Co.

PRINCIPAL PRODUCTS: Locomotives; Cranes and shovels; Niles heavy machine tools; Hamilton diesel and steam engines; Hamilton heavy metal stamping presses; Hamilton-Kruse automatic can-making machinery; Special heavy machinery; Heavy iron castings; Weldments.



REVENUES AND EXPENSES OF RAILWAYS

MONTH OF DECEMBER AND TWELVE MONTHS OF CALENDAR YEAR 1948

Name of road		Av. mileage operated during period	Operating revenues			Operating Expenses					Operating ratio	Net from railway operation	Railway tax accruals	Net railway operating income	
						Maintenance of									
			Freight	Passenger	Total (inc. misc.)	Way and structures	Equip ment	Traffic	Trans- portation	Total				1948	1947
Akron, Canton & Youngstown	Dec.	171	465,500	219	484,975	66,981	47,348	36,451	147,167	331,862	68.4	153,113	51,735	87,375	72,149
	12 mos.	171	5,649,355	1,038	5,890,356	863,381	562,955	331,800	1,642,513	3,696,457	62.8	2,193,899	821,684	1,123,588	829,821
Atchison, Topeka & Santa Fe System	Dec.	13,081	36,922,265	4,457,610	46,091,818	7,110,277	9,025,184	929,063	16,221,121	35,060,268	76.07	11,031,550	5,774,326	5,090,814	6,420,839
	12 mos.	13,081	427,135,073	53,244,058	526,733,746	78,932,766	92,113,932	11,376,677	184,047,215	387,510,698	73.57	139,223,048	69,090,015	68,715,752	54,302,422
Atlanta & St. Andrews Bay	Dec.	82	189,276	1,522	199,872	38,265	15,554	7,518	46,489	97,300	48.7	102,572	25,286	60,742	49,940
	12 mos.	82	2,300,279	20,423	2,407,618	312,008	190,804	76,401	604,516	1,291,729	53.7	1,115,889	388,089	496,407	329,112
Atlanta & West Point	Dec.	93	252,397	63,485	365,441	44,307	59,866	15,066	205,430	349,287	95.6	16,154	15,806	—23,294	87,566
	12 mos.	93	3,395,083	625,978	4,568,673	504,501	617,970	167,368	2,254,516	3,812,883	83.5	755,790	375,433	141,284	87,518
Western of Alabama	Dec.	133	249,876	60,586	351,714	59,701	76,502	14,449	165,710	337,896	96.1	13,818	—727	19,876	22,304
	12 mos.	133	3,436,221	615,584	4,483,312	517,900	720,163	166,276	1,931,729	3,580,460	79.9	902,852	468,988	427,371	262,853
Atlantic Coast Line	Dec.	5,562	8,947,469	1,949,853	11,823,089	2,086,985	2,074,123	349,115	5,250,016	10,346,947	87.5	1,477,032	450,000	869,633	1,475,931
	12 mos.	5,570	106,370,606	19,971,667	136,336,690	25,778,838	24,250,288	3,594,042	58,514,254	118,287,514	86.8	18,049,176	10,300,000	5,126,754	3,049,642
Charleston & Western Carolina	Dec.	343	407,345	5,766	423,203	42,783	84,868	15,292	162,989	317,502	75.0	105,701	.....	98,325	113,768
	12 mos.	343	4,914,294	61,430	5,110,996	838,678	918,474	174,239	2,037,785	4,101,339	80.2	1,009,657	355,000	533,243	360,680
Baltimore & Ohio	Dec.	6,201	27,105,234	2,335,023	31,253,801	3,540,078	6,616,667	801,876	14,331,111	26,816,401	85.8	4,437,400	2,040,762	2,397,241	2,742,241
	12 mos.	6,192	353,289,835	24,593,016	400,190,447	48,836,912	82,114,131	8,725,049	167,832,456	324,221,226	81.0	75,969,221	30,628,316	43,110,013	29,099,949
Staten Island Rapid Transit	Dec.	29	193,094	63,055	263,249	82,535	36,204	2,247	154,284	309,044	117.4	—45,795	33,319	—99,297	—101,385
	12 mos.	29	2,299,138	1,112,082	3,574,078	704,860	490,611	21,912	1,846,565	3,419,880	95.7	154,198	450,366	—544,393	—671,400
Bangor & Aroostook	Dec.	602	1,808,177	48,338	1,899,230	317,243	274,444	13,720	396,368	1,051,034	55.3	848,196	427,907	395,867	262,282
	12 mos.	602	14,509,344	576,846	15,539,749	3,000,396	2,393,448	112,284	4,049,587	10,095,140	65.0	5,444,609	2,646,740	2,913,380	1,655,920
Bessemer & Lake Erie	Dec.	214	1,270,355	1,629	1,298,660	202,318	703,188	27,375	609,214	1,647,548	126.9	—348,888	—276,062	179,484	20,536
	12 mos.	214	26,191,477	18,216	26,415,941	2,025,010	7,156,867	236,432	5,991,912	16,307,859	61.7	10,108,082	5,409,509	7,828,302	7,580,819
Boston & Maine	Dec.	1,757	5,877,946	1,199,936	7,789,242	1,505,873	1,327,417	119,338	3,541,747	6,789,070	87.2	1,000,172	—378,252	993,124	641,118
	12 mos.	1,757	70,836,876	14,863,672	94,165,928	15,605,032	14,248,582	1,261,458	38,965,356	73,742,349	78.3	20,423,579	7,737,357	8,270,759	5,930,518
Burlington-Rock Island	Dec.	228	296,721	62,603	386,830	41,484	29,801	4,621	178,201	276,979	71.6	109,851	9,660	38,888	28,584
	12 mos.	228	3,757,718	657,964	4,677,813	594,300	472,576	53,595	1,908,061	3,273,936	70.0	1,403,877	117,964	650,225	185,667
Cambria & Indiana	Dec.	35	158,994	.....	159,034	28,634	75,311	7,316	41,901	161,806	101.74	—2,772	50,684	61,122	16,733
	12 mos.	35	1,563,622	.....	1,564,222	155,847	982,831	9,500	300,534	1,554,291	99.36	9,931	747,031	654,408	460,419
Canadian Pacific Lines in Maine	Dec.	234	719,552	32,580	778,491	70,239	109,336	7,128	287,828	490,294	63.0	288,197	28,759	175,514	2,643
	12 mos.	234	5,147,889	439,270	5,879,069	1,067,779	892,030	86,243	2,387,732	4,588,933	78.1	1,290,136	281,854	185,351	—110,477
Canadian Pacific Lines in Vermont	Dec.	90	174,426	13,932	199,633	39,895	38,168	5,105	149,137	240,337	120.4	—40,704	13,983	—105,786	—114,814
	12 mos.	90	1,982,742	210,508	2,408,305	601,918	438,160	61,803	1,838,185	3,025,401	125.6	—617,096	160,579	—1,325,995	—1,311,226
Central of Georgia	Dec.	1,815	2,581,388	286,273	3,201,159	445,241	496,526	102,220	1,557,231	2,770,942	86.6	430,217	120,834	271,241	276,559
	12 mos.	1,815	31,557,077	3,056,688	37,805,610	5,819,759	6,095,127	1,231,993	17,739,061	32,878,688	87.0	4,926,922	2,564,812	2,029,762	—361,985
Central of New Jersey	Dec.	415	2,740,700	521,487	3,535,008	863,466	628,996	55,917	1,851,573	3,734,583	105.6	—199,575	331,960	—806,999	—771,216
	12 mos.	417	33,342,002	6,486,319	42,736,240	6,992,725	7,110,612	654,094	21,075,183	38,223,162	89.4	4,513,078	4,705,208	—3,885,791	—4,923,101
Central of Pennsylvania	Dec.	212	1,611,201	18,978	1,688,222	158,613	310,899	25,409	587,225	1,136,799	67.3	551,423	74,423	755,483	727,733
	12 mos.	213	20,199,252	214,033	20,907,113	1,859,145	3,709,917	284,849	6,510,707	12,887,173	61.6	8,019,940	835,893	10,382,352	8,076,954
Central Vermont	Dec.	422	822,169	69,995	958,435	112,253	161,085	24,723	356,553	694,035	72.4	264,400	41,740	165,671	89,865
	12 mos.	422	9,088,169	787,995	10,561,435	1,623,533	1,806,642	179,173	4,374,895	8,439,509	79.9	2,121,926	537,212	942,321	439,635
Chesapeake & Ohio	Dec.	5,098	23,853,370	1,077,372	25,997,141	2,822,577	6,087,881	640,979	10,526,551	21,399,898	82.3	4,597,243	3,120,429	1,897,029	2,130,811
	12 mos.	5,078	307,999,810	11,523,952	334,555,154	47,440,968	63,004,965	8,076,524	120,182,271	253,899,635	75.9	80,655,519	40,740,502	45,448,383	42,615,152
Chicago & Eastern Illinois	Dec.	909	2,114,769	417,634	2,811,132	370,968	463,218	108,517	1,208,236	2,314,578	82.3	496,554	134,780	225,239	1,865,549
	12 mos.	909	25,737,147	3,821,339	32,625,027	4,139,989	6,033,857	1,208,711	13,691,457	26,716,935	81.9	5,908,092	2,236,280	2,216,509	2,285,042
Chicago & Illinois Midland	Dec.	131	855,857	986	891,190	65,552	112,948	24,188	220,836	460,095	51.6	431,095	180,520	246,821	232,549
	12 mos.	131	9,551,446	10,877	9,813,069	1,071,444	1,539,732	293,470	2,369,979	5,680,352	57.9	4,132,717	1,710,210	2,411,740	1,667,558
Chicago & North Western	Dec.	8,076	11,625,597	2,225,932	15,805,989	1,948,896	2,960,903	299,811	7,516,584	13,539,695	85.7	2,266,294	1,497,908	608,753	1,157,663
	12 mos.	8,061	148,456,455	25,742,906	195,019,864	29,702,037	35,638,087	3,672,172	86,964,396	165,487,170	84.9	29,532,694	15,617,006	10,010,400	8,458,006
Chicago, Burlington & Quincy	Dec.	8,714	15,983,252	1,780,010	19,821,229	3,140,107	2,565,102	385,102	7,302,255	14,091,626	71.1	5,729,603	3,250,167	2,097,408	3,103,039
	12 mos.	8,814	199,341,245	20,198,853	241,363,651	37,260,444	34,365,642	4,691,910	83,366,308	167,888,010	69.6	73,475,641	35,912,048	32,737,495	31,780,908
Chicago Great Western	Dec.	1,500	2,938,635	70,119	3,251,663	662,207	425,842	110,055	1,336,963	2,645,374	81.4	606,289	151,710	244,216	306,408
	12 mos.	1,500	32,447,536	677,945	35,689,758	5,396,362	4,156,058	1,206,651	14,371,442	26,293,508	73.7	9,396,250	3,348,396	3,598,774	2,388,828
Chicago, Indianapolis & Louisville	Dec.	541	1,336,861	120,995	1,551,051	378,324	257,173	103,606	640,838	1,468,711	94.7	82,340	64,154	—60,688	173,232
	12 mos.	541	16,625,699	1,238,057	19,055,141	3,310,323	2,703,419	975,847	7,381,076	15,487,355	81.3	3,567,786	905,388	1,476,573	444,115
Chicago, Milwaukee, St. Paul & Pacific	Dec.	10,671	16,807,069	2,040,847	20,934,495	2,948,077	4,178,612	450,566	9,534,917	18,086,677	86.4	2,847,818	1,618,000	854,263	2,393,784
	12 mos.	10,671	208,721,239	21,650,584	254,982,710	39,233,215	45,070,232	4,856,384	109,827,088	210,276,587	82.5	44,706,123	21,265,000	15,514,415	16,812,176
Chicago, Rock Island & Pacific	Dec.	7,631	12,651,869	2,258,747	16,381,076	1,581,253	2,328,337	465,268	6,090,139	11,161,196	68.1	5,219,880	2,474,654	2,130,638	2,223,989
	12 mos.	7,645	158,949,771	23,285,081	197,404,990	24,423,476	29,291,558	5,331,402	75,439,717	143,163,106	72.5	54,241,884	23,374,458	21,891,753	21,255,374
Chicago, St. Paul, Minn. & Omaha	Dec.	1,617	2,584,853	242,435	3,058,859	323,888	348,547	60,539	1,444,269	2,298,891	75.2	759,968	179,521	464,439	529,732
	12 mos.	1,617	28,816,692	2,643,347	34,238,852	4,830,541	5,098,527	685,922	16,252,057	28,298,814	82.7	5,940,038	2,202,819	1,960,144	1,625,278
Clinchfield	Dec.	317	1,448,421	6,181	1,467,608	191,955	293,638	35,116	431,721	983,445	67.0	484,163	115,706	438,356	683,874
	12 mos.	317	19,090,222	68,206	19,312,071	1,770,508	3,358,326	389,402	5,779,144	11,657,852	60.4	7,654,219	1,906,751	6,850,014	6,826,248
Colorado & Southern	Dec.	745	936,743	110,026	1,164,158	85,782	128,608	24,465	477,317	765,603	65.8	398,555	213,799	154,150	145,087
	12 mos.	745	11,445,396	1,070,880	13,752,371	2,040,610	2,268,071	286,838	5,816,597	11,023,448	80.2	2,728,923	1,538,416	826,776	699,039
Ft. Worth & Denver City	Dec.	902	1,263,135	137,122	1,532,787	156,503	163,067	41,966	529,128	968,716	63.2	564,071	171,698	342,931	340,542
	12 mos.	902	13,582,580	1,737,127	16,582,258	2,288,595	2,163,076	472,937	6,030,053	11,835,886	71.4	4,746,372	1,583,031	2,478,709	2,217,621

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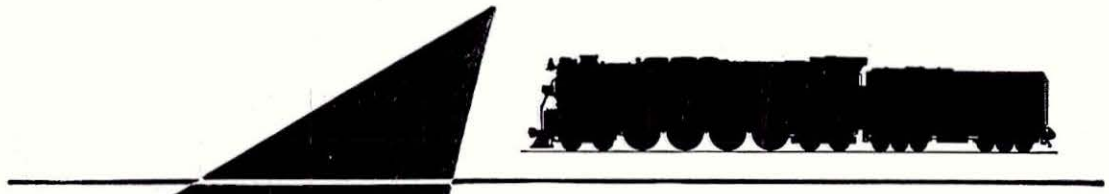

Let's be power-thrifty

For years to come some railroads will have steam locomotives. And it is merely business thrift to endeavor to get the most efficient operation possible from such motive power.

In many instances the installation of Security Circulators in existing steam locomotives will prove a profitable investment. Originally developed by American Arch as a support for Security arch brick, road experience has shown that Security Circulators greatly improve steaming performance and aid in many other ways in increasing motive power efficiency.

* * *

For nearly forty years the American Arch Company has been designing and furnishing arch brick for coal-burning locomotives, and a recent development is the Security Dutch Oven for improving combustion in oil-burning steam locomotives.

American Arch Company Inc.

NEW YORK • CHICAGO

REVENUES AND EXPENSES OF RAILWAYS

MONTH OF DECEMBER AND TWELVE MONTHS OF CALENDAR YEAR 1948

Name of road		Av. mileage operated during period	Operating revenues: Freight	Operating revenues: Passenger	Operating revenues: Total (inc. misc.)	Operating Expenses: Maintenance of Way and structures	Operating Expenses: Maintenance of Equipment	Operating Expenses: Traffic	Operating Expenses: Transportation	Operating Expenses: Total	Operating ratio	Net from railway operation	Railway tax accruals	Net railway operating income: 1948	Net railway operating income: 1947
Colorado & Wyoming	Dec.	41	149,338	.....	235,776	7,668	27,358	513	90,575	133,547	56.6	102,229	47,173	54,744	66,491
	12 mos.	41	1,697,707	.....	2,706,882	149,221	272,008	10,255	1,032,815	1,542,372	56.9	1,164,510	504,649	654,696	440,828
Columbus & Greenville	Dec.	168	150,352	1	158,189	72,969	28,479	5,444	46,791	173,724	109.8	—15,535	16,502	—27,024	18,054
	12 mos.	168	1,865,915	4,939	1,972,505	513,674	353,140	58,508	607,310	1,738,262	88.1	234,243	173,852	103,402	—35,806
Delaware & Hudson	Dec.	794	4,561,416	184,581	4,878,607	594,873	1,227,742	72,149	2,046,464	4,124,655	84.5	753,952	226,011	560,160	338,236
	12 mos.	794	56,255,530	2,273,981	60,179,755	7,371,909	13,164,716	871,852	23,015,213	46,514,339	77.3	13,665,416	6,575,237	7,356,928	5,815,382
Delaware, Lackawanna & Western	Dec.	969	5,969,077	988,811	7,558,776	677,354	1,086,694	143,103	3,386,568	5,544,869	73.4	2,013,907	864,436	1,126,096	868,722
	12 mos.	972	73,282,727	10,792,647	91,426,345	10,662,748	13,966,731	1,705,474	39,704,036	68,844,763	75.3	22,581,582	10,532,131	11,362,804	8,322,247
Denver & Rio Grande Western	Dec.	2,443	5,154,921	258,751	5,794,333	507,467	1,111,796	177,381	2,002,631	4,052,722	69.9	1,741,611	962,633	817,484	877,871
	12 mos.	2,443	62,505,951	3,017,249	68,501,025	7,949,950	11,309,729	1,759,731	24,327,545	48,413,765	70.7	20,087,260	8,046,236	12,156,284	8,330,813
Detroit & Mackinac	Dec.	232	155,611	1,238	169,403	50,922	16,545	5,217	43,202	129,503	76.4	39,900	20,161	19,844	4,382
	12 mos.	230	2,045,692	14,765	2,198,792	463,465	252,401	22,243	449,552	1,287,926	58.6	910,866	348,532	527,744	372,650
Detroit & Toledo Shore Line	Dec.	50	572,227	.....	574,617	79,917	71,745	14,346	230,964	411,083	71.5	163,534	35,321	38,621	93,017
	12 mos.	50	6,529,208	.....	6,564,686	665,504	534,315	146,224	2,025,202	3,499,029	53.3	3,065,657	845,997	1,018,605	858,721
Detroit, Toledo & Ironton	Dec.	464	1,417,441	783	1,467,106	121,347	206,062	24,526	356,929	749,823	51.1	717,283	273,038	413,638	411,787
	12 mos.	464	15,291,286	9,535	15,917,636	1,689,059	2,815,191	260,254	3,908,086	9,103,059	57.2	6,814,577	2,565,654	3,816,808	3,127,408
Duluth, Missabe & Iron Range	Dec.	575	680,816	2,902	773,805	737,374	603,670	11,019	1,166,647	2,604,032	336.5	—1,830,227	—957,771	—877,283	—758,084
	12 mos.	572	39,893,414	32,796	46,602,055	6,494,514	5,762,494	91,869	13,804,448	26,953,228	57.8	19,648,827	9,509,963	10,165,042	8,952,762
Duluth, Winnipeg & Pacific	Dec.	175	289,056	1,686	299,364	38,282	37,306	8,922	169,706	268,624	89.7	30,740	9,583	—9,185	65,309
	12 mos.	175	4,253,056	18,586	4,339,064	836,358	556,464	48,353	1,869,797	3,389,384	78.1	949,680	328,133	119,025	242,984
Elgin, Joliet & Eastern	Dec.	238	3,459,433	8	4,070,442	377,759	720,982	41,161	1,719,225	3,031,876	74.5	1,038,566	293,977	462,275	146,465
	12 mos.	315	38,724,096	89	46,307,238	3,365,661	6,610,441	329,996	16,752,835	28,358,287	61.2	17,948,951	6,813,076	7,768,991	5,162,157
Erie	Dec.	2,229	12,033,145	814,302	13,836,272	1,126,637	2,399,232	313,889	5,914,635	10,501,038	75.9	3,335,234	1,285,073	1,625,190	878,686
	12 mos.	2,229	154,975,862	8,336,889	175,098,789	19,873,858	27,727,706	3,647,464	71,016,039	130,063,356	74.3	45,035,433	18,963,613	20,224,823	11,528,288
Florida East Coast	Dec.	575	1,708,737	676,928	2,642,380	344,950	450,341	70,913	1,057,200	2,064,885	78.1	577,495	169,505	309,762	1,399,314
	12 mos.	575	18,816,455	7,215,475	28,653,199	4,483,301	5,057,327	779,358	11,557,632	23,897,809	83.4	4,755,390	1,743,698	1,855,052	1,544,281
Georgia Railroad	Dec.	326	632,584	43,725	727,438	122,198	116,919	29,969	372,103	671,118	92.3	56,320	39,843	48,938	19,203
	12 mos.	326	7,875,144	413,434	8,853,047	1,179,382	1,271,298	333,066	4,255,569	7,371,816	83.3	1,481,231	424,566	1,235,356	620,611
Georgia & Florida	Dec.	408	241,580	2,043	250,133	84,405	35,968	15,037	122,880	299,490	119.7	—49,357	17,876	—84,255	—19,142
	12 mos.	408	2,737,174	23,895	2,831,987	755,513	402,843	159,234	1,232,791	2,686,474	94.9	145,513	175,770	—213,254	—184,403
Grand Trunk Western	Dec.	971	3,528,875	228,246	4,078,487	401,296	639,694	85,245	2,007,657	3,278,689	80.4	799,798	222,311	492,195	192,816
	12 mos.	972	45,648,875	2,285,246	51,419,487	7,724,712	8,622,585	742,475	22,898,395	41,857,871	81.4	9,561,616	2,668,449	5,342,323	3,572,923
Canadian Natl. Lines in New Engl.	Dec.	172	174,941	8,023	190,981	50,224	44,474	2,297	122,776	231,294	121.1	—40,313	25,803	—94,374	—114,991
	12 mos.	172	2,092,941	116,323	2,404,981	824,270	503,569	33,437	1,508,015	2,977,161	123.8	—572,180	263,922	—1,237,052	—1,167,794
Great Northern	Dec.	8,336	13,885,736	1,272,175	16,539,642	2,979,193	2,834,818	345,124	7,298,238	14,063,373	85.0	2,476,269	2,074,518	170,631	1,189,969
	12 mos.	8,334	186,907,685	12,650,404	216,342,083	37,172,965	34,059,270	3,951,558	79,726,996	162,162,548	75.0	54,179,535	24,018,778	27,199,841	23,815,730
Green Bay & Western	Dec.	224	308,839	29	317,003	83,998	40,675	18,410	86,275	219,278	69.17	97,725	50,071	53,964	—186
	12 mos.	224	3,633,336	379	3,720,513	873,146	413,093	215,902	1,098,480	2,747,083	73.84	973,430	445,425	343,191	185,884
Gulf, Mobile & Ohio	Dec.	2,905	5,795,381	597,182	7,015,203	1,060,977	1,285,946	315,448	2,363,634	5,403,436	77.0	1,611,767	674,178	625,736	640,837
	12 mos.	2,906	69,131,397	6,312,996	81,057,931	13,763,176	13,349,201	2,777,763	26,026,210	59,795,192	73.8	21,262,739	8,310,546	9,097,324	6,876,002
Illinois Central	Dec.	6,552	17,670,879	3,023,155	23,272,308	2,700,784	3,719,695	525,007	8,493,657	16,416,970	70.5	6,855,338	4,007,847	3,075,138	2,518,951
	12 mos.	6,563	213,973,176	26,535,064	268,174,957	43,444,267	45,504,584	5,253,855	96,710,393	202,034,565	75.3	66,140,392	33,653,074	29,770,116	24,318,396
Illinois Terminal	Dec.	474	812,034	132,494	1,039,174	180,707	135,283	37,418	404,214	812,222	78.16	226,952	128,957	85,759	170,514
	12 mos.	474	10,629,614	1,473,201	13,374,067	1,931,245	1,627,541	370,505	4,806,699	9,223,570	68.97	4,150,497	1,827,304	1,952,436	1,823,433
Kansas City Southern	Dec.	890	3,221,477	112,907	3,627,746	205,509	410,367	107,858	1,044,810	1,914,346	52.8	1,713,400	592,000	932,822	841,271
	12 mos.	890	37,259,002	1,159,039	41,552,708	3,299,225	4,836,561	1,096,196	11,471,707	22,168,156	53.4	19,384,552	7,306,000	10,286,337	7,629,756
Kansas, Oklahoma & Gulf	Dec.	328	557,499	974	566,189	44,004	39,306	22,172	170,410	300,458	53.1	265,731	123,297	108,500	90,437
	12 mos.	328	5,840,581	10,920	5,902,804	656,935	445,834	201,972	1,603,184	3,126,084	53.0	2,776,720	1,198,441	1,124,643	988,549
Lake Superior & Ishpeming	Dec.	156	52,793	54	56,422	28,409	57,887	1,671	49,431	157,436	279.0	—101,014	19,546	—114,384	—133,654
	12 mos.	156	2,999,363	753	3,728,676	590,234	556,152	19,226	961,572	2,253,357	60.4	1,475,319	786,127	764,422	863,773
Lehigh & Hudson River	Dec.	96	292,390	.....	293,129	43,422	38,272	9,198	100,085	199,348	68.0	93,781	34,370	37,530	19,544
	12 mos.	96	3,406,962	.....	3,417,716	529,408	461,399	98,998	1,210,589	2,402,880	70.3	1,014,836	394,011	337,672	226,910
Lehigh & New England	Dec.	191	611,500	.....	617,985	99,353	110,858	16,528	188,737	447,524	72.4	170,461	22,342	170,212	78,125
	12 mos.	193	8,921,713	.....	9,012,856	1,019,850	1,283,226	136,719	2,732,449	5,544,278	61.5	3,468,578	1,507,255	2,106,483	1,496,371
Lehigh Valley	Dec.	1,252	5,665,925	444,989	6,448,491	1,204,511	1,194,646	144,956	2,788,267	5,600,842	86.9	847,649	378,475	304,466	—16,659
	12 mos.	1,252	71,699,353	4,343,239	80,050,452	11,329,644	12,532,006	1,677,338	35,262,039	63,821,754	79.7	16,228,698	4,941,300	9,200,990	4,279,880
Louisiana & Arkansas	Dec.	756	1,629,892	71,059	1,773,914	227,485	198,568	57,875	612,055	1,155,228	65.1	618,686	262,846	263,063	277,006
	12 mos.	756	19,063,270	702,464	20,542,283	2,310,616	1,936,782	587,436	6,617,674	12,031,293	58.6	8,510,990	3,384,213	3,555,607	2,485,500
Louisville & Nashville	Dec.	4,759	14,217,027	1,446,757	16,817,061	2,101,534	3,855,743	321,160	7,181,279	14,080,175	83.7	2,736,886	1,876,935	1,504,787	2,199,340
	12 mos.	4,759	179,600,760	15,670,286	207,271,683	28,411,344	43,158,277	3,535,643	87,073,153	169,453,493	81.8	37,818,190	25,366,064	21,175,636	16,280,657

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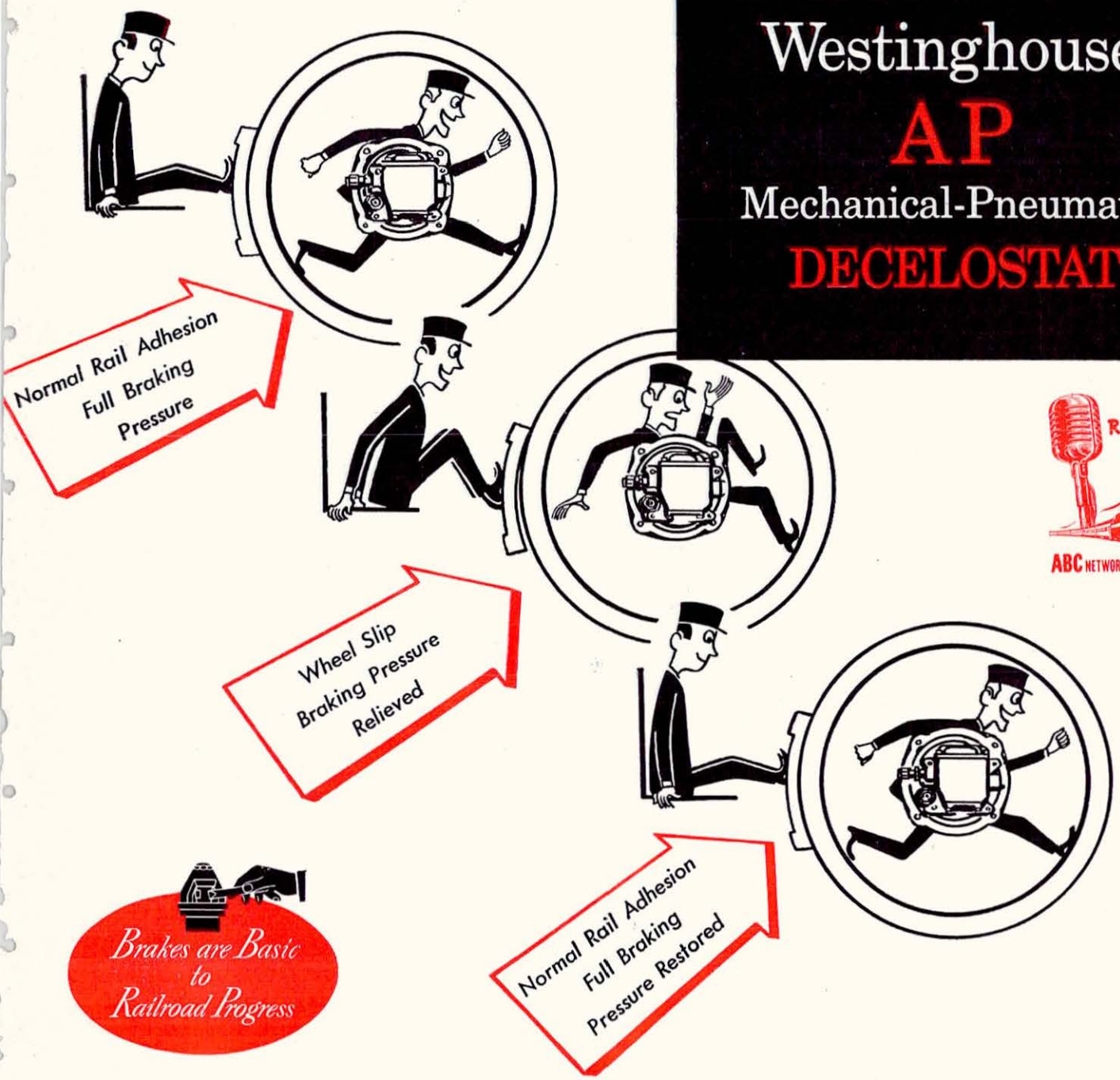
Doing a good turn for Braking Efficiency

Westinghouse AP Mechanical-Pneumatic DECELOSTAT



The RAILROAD HOUR
ABC NETWORK • Monday Nights

Brakes are Basic to Railroad Progress

Here's a device that will put a big *Plus* in braking efficiency for your passenger equipment.

With simplified mechanical-pneumatic design, the Westinghouse AP Decelostat measures deceleration *right at each wheel*. It acts at the first hint of wheel slip, *relieves* the brake pressure before wheels can slide.

Restoration of brake pressure starts at once automatically, builds up to train value. Thus, braking pressure is momentarily relieved the instant wheel slip is detected—and the slip is arrested *before* it can develop into a slide.

Bulletin DL2461-1 will give you full details.

Westinghouse Air Brake Co.

WILMERDING, PA.

REVENUES AND EXPENSES OF RAILWAYS

MONTH OF DECEMBER AND TWELVE MONTHS OF CALENDAR YEAR 1948

Name of road		Av. mileage operated during period	Operating revenues: Freight	Passenger	Total (inc. misc.)	Operating Expenses: Maintenance of Way and structures	Maintenance of Equipment	Traffic	Transportation	Total	Operating ratio	Net from railway operation	Railway tax accruals	Net railway operating income 1948	Net railway operating income 1947
Maine Central	Dec.	981	1,952,024	195,051	2,318,834	323,185	445,327	13,220	886,011	1,732,391	74.7	586,443	284,710	225,123	305,034
	12 mos.	987	22,867,055	2,186,610	26,761,589	4,924,242	5,028,201	210,026	10,096,397	21,060,574	78.7	5,701,015	2,669,954	2,485,610	2,166,610
Midland Valley	Dec.	334	189,177	8	192,385	38,414	17,975	4,380	64,353	134,013	69.7	58,372	51,929	—4,397	38,651
	12 mos.	334	2,111,111	200	2,160,062	483,581	246,032	38,235	697,948	1,550,023	71.8	610,039	307,516	201,644	268,921
Minneapolis & St. Louis	Dec.	1,401	1,617,566	11,850	1,683,103	114,237	219,717	112,136	561,787	1,108,385	65.9	574,718	273,130	302,112	201,936
	12 mos.	1,403	19,514,973	113,861	20,286,684	3,304,908	3,117,527	1,229,913	6,682,342	15,382,025	75.8	4,904,659	2,414,363	2,279,389	1,914,674
Minn., St. Paul & S. Ste. Marie	Dec.	3,224	2,537,716	122,776	2,864,089	576,682	562,472	78,722	1,267,506	2,597,184	90.7	266,905	312,557	—28,361	3,928
	12 mos.	3,224	33,318,449	1,457,571	37,010,433	7,254,322	6,255,089	749,795	14,945,537	30,469,055	82.3	6,541,378	3,635,531	2,510,339	2,033,179
Duluth, South Shore & Atlantic	Dec.	530	428,098	11,615	471,077	102,697	83,039	17,683	206,923	421,574	89.5	49,503	13,341	25,852	60,888
	12 mos.	530	5,854,957	130,278	6,327,049	1,263,206	1,058,027	199,350	2,476,265	5,123,097	81.0	1,203,952	274,951	713,952	537,459
Spokane International	Dec.	152	144,173	2,207	159,316	22,140	14,261	4,477	64,078	114,492	71.9	44,824	18,231	16,993	35,909
	12 mos.	152	1,969,939	17,835	2,138,141	435,119	240,019	47,225	763,907	1,597,974	74.7	540,167	185,566	209,548	222,716
Mississippi Central	Dec.	148	208,098	311	213,415	55,116	22,162	12,284	56,411	157,015	73.6	56,400	17,498	19,242	20,084
	12 mos.	148	2,305,668	3,177	2,361,438	493,871	227,628	143,484	574,038	1,543,512	65.4	817,926	290,593	315,232	165,429
Missouri-Illinois	Dec.	172	384,623	355	387,759	61,569	19,934	7,389	99,393	197,727	51.0	190,032	89,427	97,558	43,756
	12 mos.	172	4,635,813	4,098	4,675,538	751,179	477,760	79,243	1,223,910	2,630,421	56.3	2,045,117	879,308	1,035,846	774,442
Missouri-Kansas-Texas Lines	Dec.	3,253	6,495,880	406,795	7,508,283	936,243	976,175	256,640	2,852,200	5,254,329	70.0	2,253,954	914,415	920,877	1,088,126
	12 mos.	3,253	72,286,600	4,565,549	83,292,919	11,124,135	11,230,361	2,625,431	32,631,857	60,876,195	73.1	22,416,724	8,542,739	9,324,618	5,843,630
Missouri Pacific	Dec.	7,007	15,746,148	1,256,956	18,790,548	2,964,422	2,986,326	407,825	7,485,955	14,461,336	77.0	4,329,212	1,785,643	1,936,327	2,127,223
	12 mos.	7,011	188,283,688	13,994,062	221,034,427	33,868,167	34,203,301	4,739,433	86,585,364	166,814,502	75.5	54,219,925	18,852,872	26,575,268	21,543,724
Gulf Coast Lines	Dec.	1,719	3,718,618	111,532	4,051,854	615,679	485,411	80,110	1,306,583	2,660,499	65.7	1,391,355	449,566	650,704	627,672
	12 mos.	1,722	43,077,612	1,101,588	46,196,955	8,722,615	5,242,459	930,441	15,141,230	31,512,651	68.2	14,684,304	4,145,171	7,381,165	6,295,392
International-Great Northern	Dec.	1,110	2,421,340	201,014	2,961,923	399,184	444,827	49,320	1,168,976	2,188,479	73.9	773,444	243,994	374,742	291,273
	12 mos.	1,110	28,203,326	2,361,005	33,757,359	5,615,716	5,058,040	600,956	14,914,073	27,672,879	82.0	6,084,480	1,519,933	2,682,910	1,291,216
Monongahela	Dec.	170	714,140	1,350	718,225	77,566	78,466	871	252,647	416,264	58.0	301,961	88,815	72,325	87,966
	12 mos.	170	8,479,074	14,135	8,557,750	932,708	790,805	16,234	2,671,315	4,477,089	52.3	4,080,661	1,113,349	1,490,972	1,656,799
Montour	Dec.	...	242,479	.....	244,357	20,530	87,073	868	94,977	213,549	87.4	30,808	38,371	52,585	41,132
	12 mos.	...	3,060,744	.....	3,076,781	300,796	886,962	9,180	987,005	2,304,496	74.9	772,285	674,420	814,660	742,621
Nashville, Chatt. & St. Louis	Dec.	1,051	2,371,434	212,666	2,912,972	377,010	402,170	107,167	1,258,659	2,252,980	77.3	659,992	366,999	297,395	329,369
	12 mos.	1,051	29,988,505	2,341,563	35,528,344	5,281,356	6,213,424	1,260,982	14,650,443	28,869,334	81.3	6,659,010	3,646,894	2,932,666	1,936,033
New York Central	Dec.	10,745	47,509,033	15,600,332	72,319,450	8,975,698	15,468,618	1,169,519	33,072,215	62,410,052	86.3	9,909,398	4,730,441	3,637,391	2,302,075
	12 mos.	10,745	561,361,243	136,168,197	779,860,755	110,194,416	158,922,978	12,334,617	349,151,141	667,342,966	85.6	112,517,789	54,161,593	37,221,591	24,519,561
Pittsburgh & Lake Erie	Dec.	221	3,651,169	112,000	3,930,302	674,378	1,099,381	71,807	1,329,008	3,383,522	86.1	546,780	477,533	683,680	794,322
	12 mos.	223	42,011,092	1,197,462	45,072,897	5,695,631	11,504,095	771,546	15,807,909	35,806,112	79.4	9,266,785	7,298,520	9,677,960	7,476,516
New York, Chicago & St. Louis	Dec.	1,686.98	8,810,370	152,131	9,172,667	995,339	1,413,773	226,379	3,494,341	6,520,313	71.1	2,652,354	1,170,081	1,036,224	1,086,293
	12 mos.	1,686.98	105,422,123	1,622,856	109,481,655	13,262,931	16,180,974	2,564,517	38,518,655	74,255,194	67.8	35,226,461	13,997,010	16,316,966	10,212,642
New York, New Haven & Hartford	Dec.	1,793	8,337,814	5,141,607	14,904,298	2,171,175	2,711,421	244,443	5,961,633	11,983,568	80.4	2,920,730	1,702,563	929,674	511,848
	12 mos.	1,819	98,090,981	56,696,889	171,391,814	25,005,718	24,866,458	2,965,473	71,680,601	135,370,333	79.0	36,021,381	14,323,563	10,902,536	4,908,131
New York Connecting	Dec.	21	275,255	.....	293,967	96,039	16,924	.....	145,219	261,015	88.8	32,952	66,516	20,723	491,415
	12 mos.	21	2,847,209	.....	3,114,355	918,053	216,222	.....	882,666	2,046,946	65.7	1,067,409	751,958	730,397	634,287
New York, Ontario & Western	Dec.	544	549,381	2,541	599,365	131,226	93,040	32,158	309,606	598,125	99.8	1,240	29,755	—100,711	—191,506
	12 mos.	544	7,217,848	164,791	7,957,497	1,376,835	1,275,121	362,676	4,040,687	7,434,554	93.4	522,943	483,024	—936,215	—1,299,221
New York, Susquehanna & Western	Dec.	120	338,647	47,481	401,642	39,138	57,913	5,511	178,124	306,188	76.2	95,454	828,315	—758,449	—3,875
	12 mos.	120	4,299,200	526,514	5,029,183	525,843	587,563	68,281	2,126,794	3,604,510	71.6	1,424,673	1,181,636	—276,657	234,596
Norfolk & Western	Dec.	2,129	13,957,341	672,906	15,484,569	1,795,923	2,857,209	267,098	5,169,505	10,825,282	69.9	4,659,287	2,977,680	2,515,417	3,324,783
	12 mos.	2,129	172,272,680	6,220,650	185,539,356	23,269,425	33,934,389	3,177,749	58,147,010	125,203,552	67.5	60,335,804	34,284,195	38,508,960	35,059,045
Norfolk Southern	Dec.	683	741,375	6,914	772,285	397,480	89,557	42,211	283,863	892,974	115.6	—120,689	117,580	—257,321	735,219
	12 mos.	722	9,653,107	8,008	9,948,127	2,213,182	1,025,266	481,334	3,416,619	7,794,700	78.4	2,153,427	1,250,360	614,659	1,366,212
Northern Pacific	Dec.	6,889	11,606,370	866,549	13,672,220	2,620,807	2,087,153	269,811	5,205,107	10,839,212	79.3	2,833,008	1,526,581	1,481,947	1,858,825
	12 mos.	6,899	137,242,525	7,509,510	157,177,313	26,655,202	27,751,027	3,065,087	56,707,034	121,621,590	77.4	35,555,723	18,582,367	20,140,126	18,005,493
Northwestern Pacific	Dec.	331	551,943	11,130	591,938	147,912	93,295	4,192	344,400	602,873	101.8	—10,935	37,037	—86,577	—2,106
	12 mos.	331	8,116,239	110,019	8,559,250	1,863,790	1,004,744	51,741	4,048,254	7,150,287	83.5	1,408,963	430,843	445,027	416,287
Oklahoma City-Ada-Atoka	Dec.	132	99,798	.....	101,062	14,350	5,190	1,648	23,001	49,611	49.1	51,451	25,207	18,115	—2,968
	12 mos.	132	1,090,233	2	1,109,286	251,890	57,745	16,042	290,547	656,627	59.2	452,659	182,850	134,227	42,892
Pennsylvania	Dec.	10,145	59,885,353	14,917,075	82,065,718	7,593,372	19,960,584	1,688,134	38,930,889	71,640,804	87.3	10,424,914	5,532,970	3,784,783	312,548
	12 mos.	10,111	752,967,854	160,304,005	999,982,900	115,949,999	211,610,298	15,388,226	452,140,439	832,845,977	83.3	167,136,923	83,672,134	69,293,118	32,311,073
Long Island	Dec.	376	1,213,693	2,568,626	3,964,290	823,223	776,041	65,633	2,095,977	3,937,606	99.3	26,684	474,501	—785,117	—672,352
	12 mos.	376	16,647,520	33,450,540	52,671,314	8,283,245	9,487,570	427,839	27,958,190	47,528,555	90.2	5,142,759	5,496,835	—4,233,148	—2,190,366

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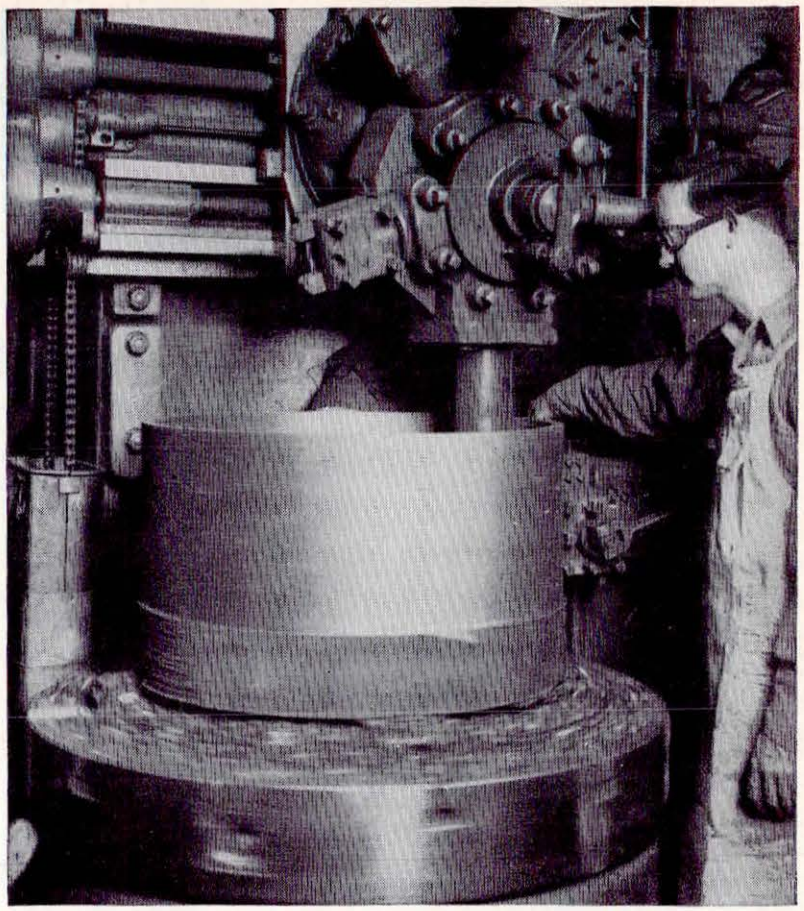
HSGI



This is where quality pays off

Hunt-Spiller are exclusive railroad sales representatives for Double Seal Piston Rings made for diesel and other services. Double Seal rings are cast from Hunt-Spiller *Air Furnace* Gun Iron.

QUITE apart from its superior wearability, there are other reasons why Hunt-Spiller Gun Iron is the preponderant choice of American railroads. One of the most important of these is *machine-ability*. It is a fact that HSGI castings take less time to machine because there is less metal to remove. The dense, homogeneous structure of HSGI permits making castings close to finished sizes. This finer structure also results in a better, smoother finish.

For many years Hunt-Spiller Gun Iron has been used for vital parts in most American steam locomotives. And now it is gaining continued acceptance as *the* material for better diesel cylinder liners.

HUNT SPILLER GUN IRON HSGI *AIR FURNACE PROCESS*

HUNT-SPILLER MFG. CORPORATION

N. C. RAYMOND, *President* F. W. LAMPTON, *Vice-Pres. & Gen. Sales Mgr.*

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Canadian Representatives: Joseph Robb & Co., Ltd., 4050 Namur St., Montreal 16, P. Q.

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Cylinder Bushings	Crosshead Shoes	Dunbar Sectional Type Packing
Cylinder Packing Rings	Hub Liners	Duplex Sectional Type Packing
Pistons or Piston Bull Rings	Shoes and Wedges	for Cylinders and Valves
Valve Bushings	Floating Rod Bushings	(Duplex Springs for Above
Valve Packing Rings	Light Weight Valves	Sectional Packing)
Valve Bull Rings	Cylinder Liners and Pistons	Cylinder Snap Rings
	for Diesel Service	Valve Rings, All Shapes

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The economical Jumbo Rotary Seal AIR-PUSH Motors have that extra power needed to wipe the new, larger windshields used on late model locomotives. Sprague Devices has recently developed a new stainless steel windshield wiper arm specifically for the railroad industry. Write today for more detailed information.

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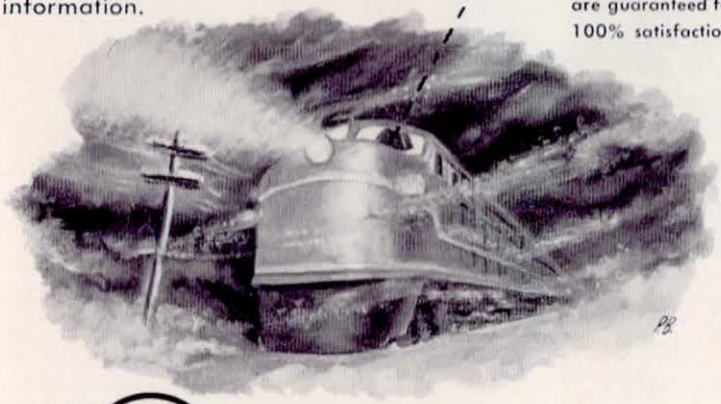

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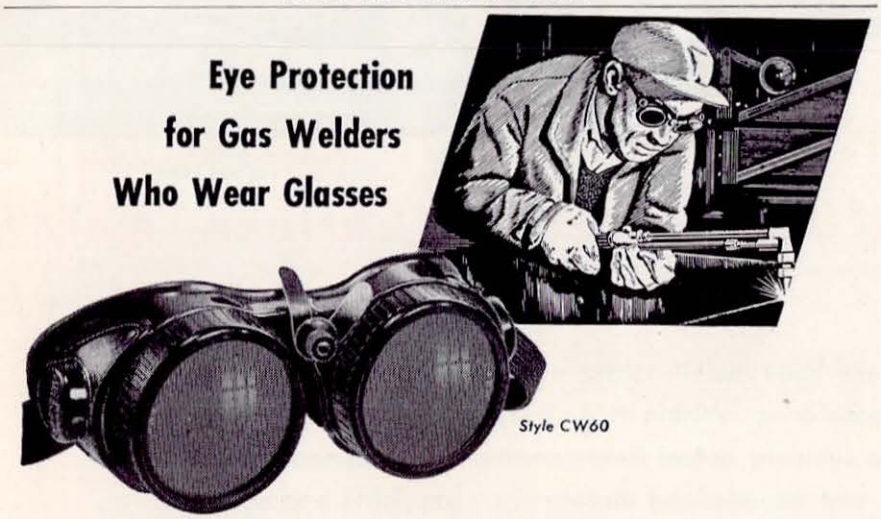

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GENERAL NEWS

(Continued from page 57)

Roads Can't Maintain Health if Inadequately Nourished, Fraser Says

Canadian railways have come through various tests of their basic efficiency and practical resiliency, Alistair Fraser, vice-president, traffic, of the Canadian National, told the Canadian Railway Club at its 41st annual dinner in Montreal, Que. "Their experience has been ripened," he said, "their technique improved; their equipment modernized. They stand at the highest point with respect to men, material and methods. Their health is good."

However, Mr. Fraser warned, to be merely in current good health is not enough. "The railways cannot maintain their good health if inadequately nourished, just as the finest athlete could not carry on a hunger fast indefinitely. They need a high level of traffic and adequate revenues for handling it."

Mr. Fraser emphasized that "competition and the struggle for business will become more pronounced as we move rapidly from shortages to surpluses. We cannot rest on past achievements to ensure us public goodwill and patronage. To be successful, we must work harder and provide better transportation service."

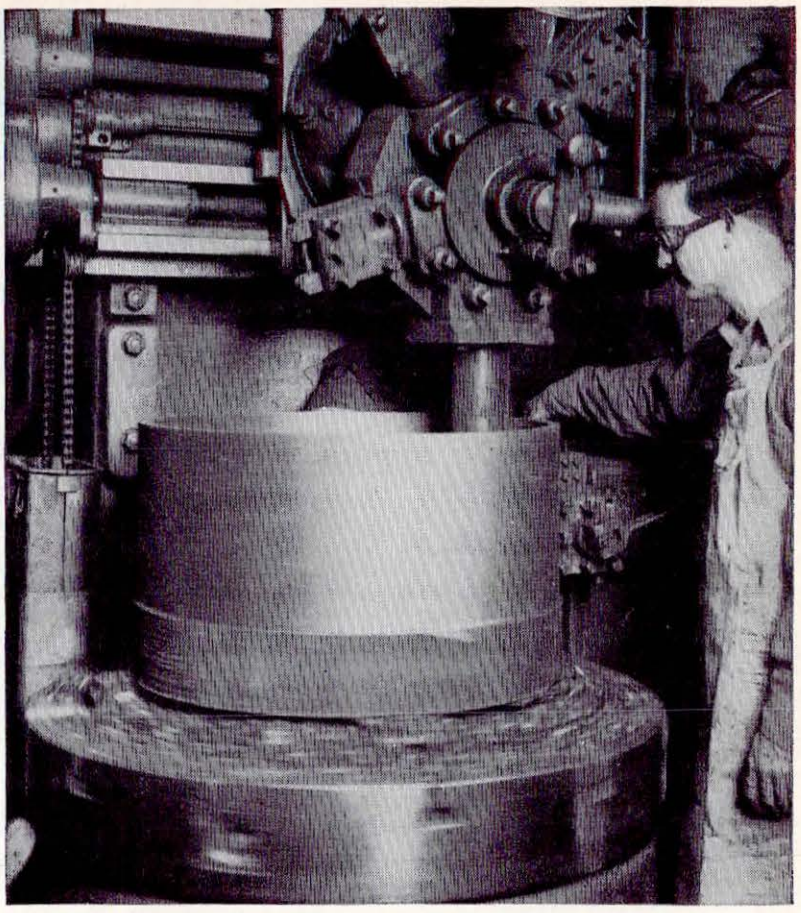
Federal Bankruptcy Act Does Not Override All State Law

The United States Supreme Court has ruled that the federal bankruptcy act's section 77, which establishes procedures for railroad reorganizations, does not override a Georgia law requiring the unanimous approval of all stockholders for the sale of a Georgia corporation's entire assets. The case, docketed in the Supreme Court as No. 21, Merrel P. Callaway, as trustee of the Central of Georgia, et al., v. L. O. Benton, Jr., et al., involved the proposed inclusion in the reorganized C. of Ga. of its former lessor, the South Western.

Under the reorganization plan approved by the Interstate Commerce Commission and the federal district court, the South Western was given the alternative of selling its property to the reorganized company in return for a fixed amount of bonds of the latter, or of having the lease disaffirmed and its property returned. When South Western's officers signified their intention of selling the property to the reorganized company, Benton and other individual stockholders of the South Western brought an action in the Georgia courts to enjoin the officers from consummating the sale. The petition for the injunction relied on the aforementioned Georgia law which requires unanimous approval of the stockholders for such a sale.

Before the Georgia court passed on the petition, a meeting of South Western stockholders was held for consideration of the offer; 30,137 shares

HSGI



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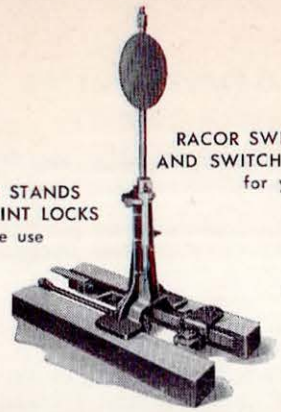
Valve Bull Rings	Cylinder Liners and Pistons	Cylinder Snap Rings
	for Diesel Service	Valve Rings, All Shapes

REVENUES AND EXPENSES OF RAILWAYS

MONTH OF DECEMBER AND TWELVE MONTHS OF CALENDAR YEAR 1948

Name of road		Av. mileage operated during period	Operating revenues: Freight	Passenger	Total (inc. misc.)	Operating Expenses: Maintenance of—Way and structures	Equipment	Traffic	Transportation	Total	Operating ratio	Net from railway operation	Railway tax accruals	Net railway operating income: 1948	1947
Pennsylvania-Reading Seashore Lines	Dec.	386	511,811	170,021	715,835	136,621	91,103	8,445	611,446	876,884	122.5	—161,049	106,952	—446,914	—306,920
	12 mos.	388	6,960,567	4,216,203	11,646,558	2,560,951	1,415,296	128,382	7,491,874	11,967,518	102.8	—320,960	1,163,902	—3,243,540	—2,208,890
Pittsburgh & Shawmut	Dec.	97	210,127	.....	211,284	28,028	50,886	6,633	64,729	183,418	86.8	27,866	8,197	18,006	43,212
	12 mos.	97	3,035,360	.....	3,046,884	677,131	496,199	41,813	851,376	2,195,992	72.1	850,892	294,077	404,524	595,707
Pittsburgh & West Virginia	Dec.	135	689,898	.....	717,722	128,434	148,457	58,262	172,212	551,855	76.9	165,867	70,881	139,935	555,368
	12 mos.	135	8,450,072	392	8,800,480	1,305,692	1,545,409	489,857	2,084,140	5,830,443	66.3	2,970,037	1,330,504	1,935,588	1,639,649
Reading	Dec.	1,338	9,265,448	755,902	10,563,903	1,647,215	2,225,914	132,880	4,413,722	8,745,863	82.8	1,818,040	917,068	894,181	864,076
	12 mos.	1,343	114,889,190	8,030,597	129,316,400	21,306,034	24,881,889	1,547,317	50,217,262	101,585,841	78.6	27,730,559	13,282,669	13,923,129	11,951,972
Richmond, Fredericksburg & Potomac	Dec.	118	1,385,202	803,713	2,466,168	279,897	327,655	21,971	1,018,063	1,764,874	71.6	701,294	363,267	244,124	158,309
	12 mos.	118	16,139,876	6,891,940	25,999,807	3,317,094	3,905,627	238,855	10,555,988	19,519,641	75.1	6,480,166	3,059,073	2,419,720	2,169,508
Rutland	Dec.	407	345,366	35,048	461,720	68,533	128,058	13,916	275,091	505,683	109.5	—43,963	32,640	—84,258	15,143
	12 mos.	407	4,843,281	466,620	6,288,662	862,924	1,186,906	165,805	3,299,717	5,730,466	91.1	558,196	361,903	—18,439	—539,785
Sacramento Northern	Dec.	269	149,031	.....	155,491	104,263	24,004	1,942	81,734	218,580	140.6	—63,088	14,264	—93,149	—119,486
	12 mos.	269	2,139,197	161	2,235,701	1,098,272	258,964	27,341	904,956	2,376,219	106.3	—140,517	159,610	—474,703	—471,760
St. Louis-San Francisco	Dec.	4,645	8,397,093	609,184	9,837,919	1,586,040	1,437,025	241,659	3,980,308	7,681,235	78.1	2,156,684	1,193,067	972,265	1,338,344
	12 mos.	4,645	96,619,579	7,429,026	112,706,007	17,320,162	18,240,568	2,916,368	47,161,959	90,431,056	80.2	22,274,951	11,949,878	11,389,522	10,373,298
St. Louis, San Francisco & Texas	Dec.	159	385,489	13,130	417,610	50,056	32,962	18,405	180,801	293,266	70.2	124,344	41,859	51,126	55,275
	12 mos.	159	4,441,899	151,768	4,836,535	620,584	417,088	194,395	2,093,545	3,450,435	71.3	1,386,100	448,728	596,365	317,098
St. Louis Southwestern Lines	Dec.	1,569	5,441,211	96,694	5,720,176	521,776	675,234	145,420	1,910,188	3,430,221	60.0	2,289,955	980,296	1,090,415	341,895
	12 mos. av.	1,573	61,342,613	860,126	64,271,868	6,860,411	7,499,935	1,638,772	20,865,265	38,889,787	60.5	25,382,081	10,634,493	12,071,612	9,879,473
Seaboard Air Line	Dec.	4,153	9,128,321	1,531,388	11,618,962	1,631,072	2,382,482	335,127	4,249,540	9,174,719	79.0	2,444,243	1,237,066	940,148	936,898
	12 mos.	4,152	107,025,798	16,094,517	132,695,409	19,858,788	24,157,045	3,735,645	50,387,797	104,324,127	78.6	28,371,282	12,527,153	13,187,842	8,789,771
Southern Railway	Dec.	6,411	17,308,389	1,677,102	20,765,727	2,346,583	3,490,475	365,978	8,163,218	15,223,800	73.3	5,541,927	2,446,283	2,901,211	2,335,736
	12 mos.	6,466	207,256,592	20,877,905	245,013,413	33,067,141	43,167,562	4,209,621	94,666,797	184,606,915	75.3	60,406,498	27,721,768	29,148,740	21,375,013
Alabama Great Southern	Dec.	316	1,276,782	78,669	1,494,311	147,799	253,445	31,629	529,164	1,020,693	68.3	473,618	362,295	153,513	213,743
	12 mos.	316	15,743,127	1,409,607	18,334,533	2,406,767	3,592,327	367,036	6,307,381	13,312,685	72.6	5,021,848	2,989,267	2,578,579	1,811,539
Cinn., New Orleans & Texas Pacific	Dec.	337	3,110,263	174,838	3,530,473	315,757	596,573	60,746	1,068,380	2,171,236	61.5	1,359,237	640,201	791,563	548,470
	12 mos.	337	35,825,862	2,457,946	40,272,864	4,801,283	7,517,496	712,256	11,944,826	26,239,267	65.2	14,033,597	7,128,313	8,327,292	6,193,843
Georgia Southern & Florida	Dec.	397	526,534	74,730	674,420	‡ 89,782	68,901	8,293	215,182	400,272	59.4	274,148	88,448	99,106	56,364
	12 mos.	397	5,798,527	753,224	7,211,017	1,478,339	895,438	95,613	2,656,509	5,325,305	73.8	1,885,712	518,509	516,044	352,081
New Orleans & Northeastern	Dec.	204	994,179	59,117	1,111,340	133,537	99,399	19,412	259,902	553,893	49.8	557,447	241,286	245,281	205,053
	12 mos.	204	11,414,045	780,321	12,860,830	1,731,121	1,325,637	225,182	3,171,262	6,906,044	53.7	5,954,786	2,601,395	2,692,434	1,978,715
Southern Pacific	Dec.	8,174	29,343,642	4,114,914	36,247,442	5,494,802	7,252,112	759,601	16,313,807	31,855,039	87.9	4,392,403	2,528,841	1,104,214	2,416,691
	12 mos.	8,184	377,150,342	48,939,868	458,081,279	53,441,156	86,450,597	8,451,482	189,857,266	362,689,011	79.2	95,392,268	44,962,283	35,556,509	30,074,119
Texas & New Orleans	Dec.	4,316	9,280,734	915,464	10,976,275	1,875,670	1,827,051	211,577	4,479,608	8,887,705	81.0	2,088,570	827,778	697,789	1,418,158
	12 mos.	4,316	110,759,352	10,227,510	129,380,804	16,735,880	18,542,070	2,439,782	51,223,607	94,540,985	73.1	34,839,819	13,843,396	14,349,581	14,581,812
Spokane, Portland & Seattle	Dec.	945	1,953,316	131,752	2,218,866	610,670	193,448	17,536	824,847	1,732,064	78.1	486,802	237,437	170,023	147,546
	12 mos.	945	23,102,507	1,191,846	25,870,554	5,998,131	2,691,947	234,428	9,744,013	19,874,201	76.8	5,996,353	1,988,869	2,189,606	1,832,871
Tennessee Central	Dec.	286	370,344	2,213	392,296	67,411	64,638	9,830	191,296	351,092	89.5	41,204	23,777	—13,765	—12,758
	12 mos.	286	4,411,980	82,361	4,752,217	784,615	792,164	106,256	2,174,847	4,060,683	85.4	691,534	284,641	29,152	—170,976
Texas & Pacific	Dec.	1,854	5,616,468	476,995	6,748,157	863,479	1,277,658	204,850	2,816,195	5,517,794	81.8	1,230,363	367,123	490,559	1,129,746
	12 mos.	1,854	66,369,513	5,757,975	77,990,776	9,643,124	11,953,230	1,976,510	30,838,188	57,934,325	74.3	20,056,451	7,537,005	8,507,482	7,742,413
Texas-Mexican	Dec.	162	264,667	.....	295,799	100,902	37,899	7,983	88,531	257,416	87.0	38,383	39,147	—22,656	99,843
	12 mos.	162	2,872,860	66	3,250,554	687,078	402,806	72,575	814,715	2,203,832	67.8	1,046,722	545,764	273,248	676,023
Toledo, Peoria & Western	Dec.	239	406,171	15	412,230	53,987	26,489	40,721	111,962	263,671	64.0	148,559	57,842	71,237	—2,880
	12 mos.	239	4,592,186	—4	4,674,782	869,495	283,579	406,093	1,203,435	3,117,172	66.7	1,557,610	583,842	706,662	—322,362
Union Pacific	Dec.	9,751	29,366,397	3,557,125	36,380,086	5,157,913	7,289,627	765,848	14,065,431	29,208,583	80.3	7,171,503	3,968,930	2,056,363	4,307,725
	12 mos.	9,752	359,724,653	42,369,215	437,583,132	60,680,926	72,865,946	9,333,132	154,397,879	321,403,216	73.4	116,179,916	59,998,483	41,975,632	36,757,231
Utah	Dec.	111	143,657	.....	143,712	—4,596	30,391	670	63,291	97,943	68.2	45,769	13,890	37,618	45,444
	12 mos.	111	1,632,204	.....	1,636,377	301,087	550,932	7,675	682,814	1,637,892	100.1	—1,515	149,367	—52,716	61,329
Virginian	Dec.	663	3,276,442	6,361	3,397,863	330,623	607,197	41,635	840,472	1,907,559	56.1	1,490,304	1,025,000	654,349	480,513
	12 mos.	661	36,900,893	66,052	38,097,608	4,512,221	7,827,278	472,391	9,781,182	23,623,958	62.0	14,473,650	8,101,860	8,703,730	8,779,265
Wabash	Dec.	2,393	7,610,499	514,513	8,728,296	993,798	490,230	262,297	3,837,768	5,979,045	68.5	2,749,251	1,446,313	851,756	998,187
	12 mos.	2,393	94,629,218	5,599,687	107,361,529	14,342,608	13,453,085	3,053,293	42,169,716	77,044,304	71.8	30,317,225	12,128,490	13,007,913	10,089,578
Ann Arbor	Dec.	294	657,668	3,947	676,922	966	133,470	23,664	331,162	505,808	74.7	171,114	96,467	49,044	59,074
	12 mos.	294	8,578,610	52,903	8,914,588	1,000,497	1,742,661	272,400	3,651,292	6,877,826	77.2	2,036,762	897,037	906,953	617,177
Western Maryland	Dec.	837	3,542,928	14,734	3,712,857	386,082	682,809	73,332	1,156,064	2,413,770	65.0	1,299,087	779,597	654,771	730,092
	12 mos.	837	43,181,422	162,073	44,855,044	5,730,562	8,584,094	804,404	14,276,465	30,865,790	68.8	13,989,254	6,851,597	8,668,984	8,028,699
Western Pacific	Dec.	1,195	2,966,449	175,414	3,232,145	611,018	566,559	154,547	1,234,986	3,067,215	94.9	164,930	397,887	—293,876	985,027
	12 mos.	1,195	40,907,177	1,966,672	44,038,237	6,234,362	7,148,259	1,623,637	15,491,528	33,191,488	75.4	10,846,749	5,044,633	4,940,897	5,085,592
Wheeling & Lake Erie	Dec.	505	2,782,495	4	2,878,167	369,985	430,163	71,403	925,555	1,900,327	66.0	977,840	641,572	482,903	693,373
	12 mos.	505	35,323,374	29	37,100,029	4,732,606	5,176,207	740,959	11,101,947	22,699,051	61.2	14,400,978	7,437,103	9,150,147	6,608,277
Wisconsin Central	Dec.	1,051	2,152,772	51,012	2,338,880	286,725	361,851	75,205	1,047,804	1,875,437	80.2	463,443	11,552	330,139	280,303
	12 mos.	1,051	27,351,529	572,092	29,734,080	3,760,867	4,079,736	710,146	11,931,044	21,499,340	72.3	8,234,740	2,638,170	3,952,724	3,489,563



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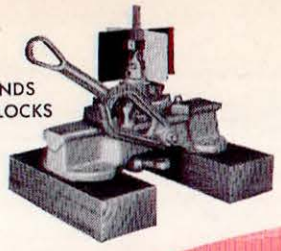

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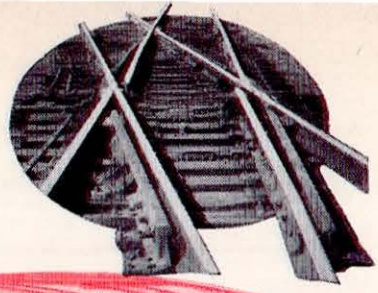

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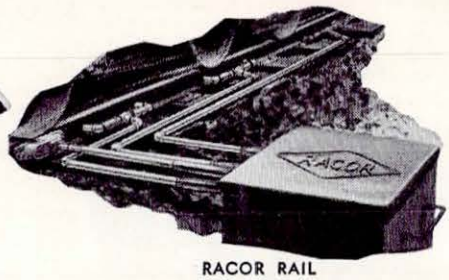

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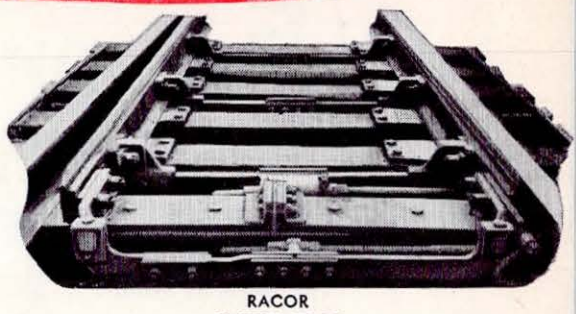

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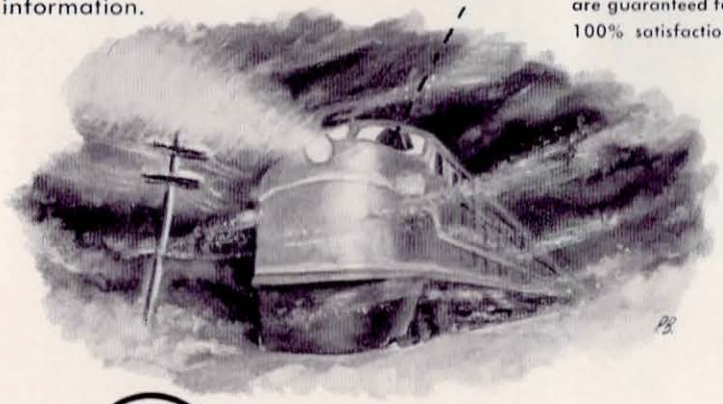

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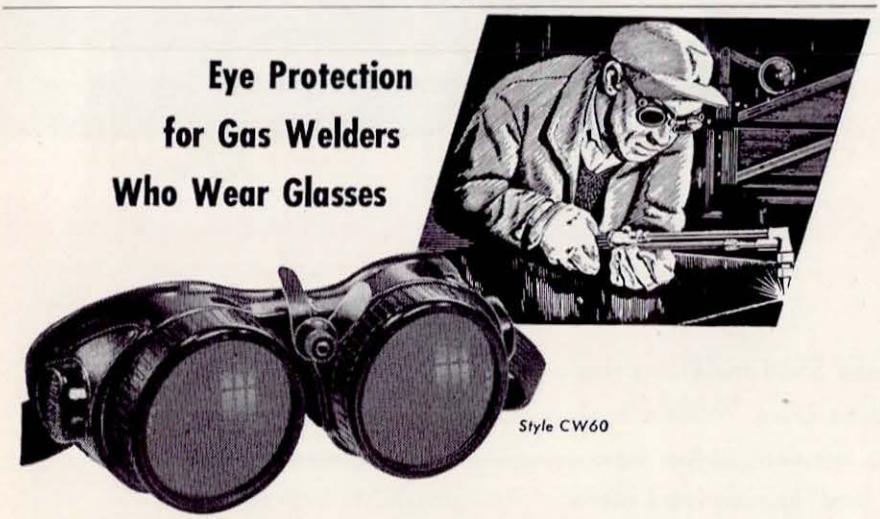

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GENERAL NEWS

(Continued from page 57)

Roads Can't Maintain Health if Inadequately Nourished, Fraser Says

Canadian railways have come through various tests of their basic efficiency and practical resiliency, Alistair Fraser, vice-president, traffic, of the Canadian National, told the Canadian Railway Club at its 41st annual dinner in Montreal, Que. "Their experience has been ripened," he said, "their technique improved; their equipment modernized. They stand at the highest point with respect to men, material and methods. Their health is good."

However, Mr. Fraser warned, to be merely in current good health is not enough. "The railways cannot maintain their good health if inadequately nourished, just as the finest athlete could not carry on a hunger fast indefinitely. They need a high level of traffic and adequate revenues for handling it."

Mr. Fraser emphasized that "competition and the struggle for business will become more pronounced as we move rapidly from shortages to surpluses. We cannot rest on past achievements to ensure us public goodwill and patronage. To be successful, we must work harder and provide better transportation service."

Federal Bankruptcy Act Does Not Override All State Law

The United States Supreme Court has ruled that the federal bankruptcy act's section 77, which establishes procedures for railroad reorganizations, does not override a Georgia law requiring the unanimous approval of all stockholders for the sale of a Georgia corporation's entire assets. The case, docketed in the Supreme Court as No. 21, Merrel P. Callaway, as trustee of the Central of Georgia, et al., v. L. O. Benton, Jr., et al., involved the proposed inclusion in the reorganized C. of Ga. of its former lessor, the South Western.

Under the reorganization plan approved by the Interstate Commerce Commission and the federal district court, the South Western was given the alternative of selling its property to the reorganized company in return for a fixed amount of bonds of the latter, or of having the lease disaffirmed and its property returned. When South Western's officers signified their intention of selling the property to the reorganized company, Benton and other individual stockholders of the South Western brought an action in the Georgia courts to enjoin the officers from consummating the sale. The petition for the injunction relied on the aforementioned Georgia law which requires unanimous approval of the stockholders for such a sale.

Before the Georgia court passed on the petition, a meeting of South Western stockholders was held for consideration of the offer; 30,137 shares

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were voted in favor of acceptance and 9,057 shares for rejection. The trustee of the Central, which was not a party to the state court proceeding, then filed a petition in the federal district court (the bankruptcy court) asking that the dissenting stockholders be enjoined from further prosecution of their action in the state court; and the federal court issued a temporary restraining order to that end.

Thereupon the state court, on its own motion, entered an injunction restraining the officers and directors of the South Western from selling its properties on the ground that such a sale would violate the Georgia law. The federal court replied with a permanent injunction declaring the state court's injunction null and void as in excess of that court's jurisdiction. Upon appeal, the U. S. Circuit Court of Appeals for the Fifth Circuit reversed the order of the federal district court; and the case came before the Supreme Court by virtue of the latter's grant of a petition for review of the circuit court's determination.

In upholding the circuit court and thus the Georgia court, the Supreme Court rejected what it called the federal district court's premise that the Central's plan of reorganization requires the inclusion of the South Western's lines within the system of the reorganized company. Thus it held that the case was not analogous to previous ones wherein the overriding of state laws has been sanctioned.

"The action of the Georgia courts in this case," it said, "does not embarrass or delay the formulation or promulgation of a plan of reorganization. The plan has been formulated and approved. It leaves open to the South Western the alternative of selling its properties to the reorganized debtor or of facing disaffirmance of the lease and the risks of separate operation of its lines . . . Unless the offer is a sham and the lessor's discretion illusory, the plan may be effectively consummated whether the offeree accepts or not. The district court did not merely postpone action which would have hindered development of the plan; it took to itself the decision of a question which the plan left open for decision elsewhere."

The Supreme Court's ruling was a 5-to-2 decision embodied in an opinion delivered by Chief Justice Vinson. A dissenting expression came from Justice Douglas with whom Justice Rutledge agreed. The majority decision, as they saw it, "permits control over the plan of reorganization to be taken from the Interstate Commerce Commission and the district court contrary to the provisions of section 77 [of the Bankruptcy Act] and allows a state court to undo what the federal agencies have approved." The dissenters appraised the situation before the court as "precisely" one of those "where the bankruptcy court, if its exclusive jurisdiction is to be maintained, must have the power to enjoin action in state courts."

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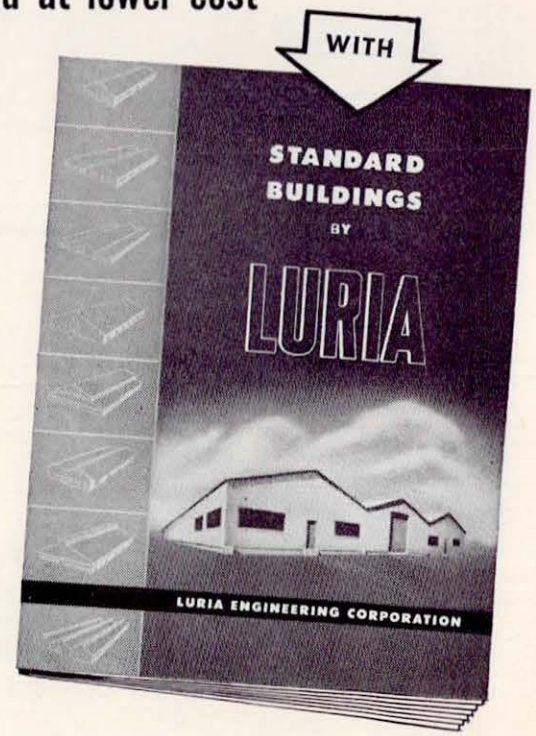

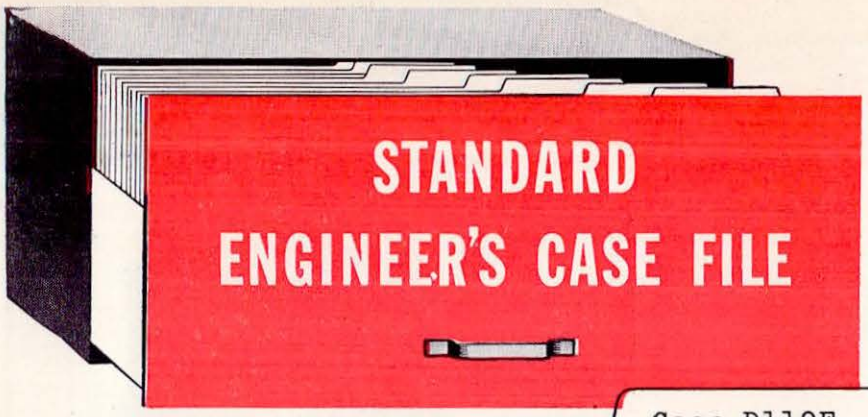

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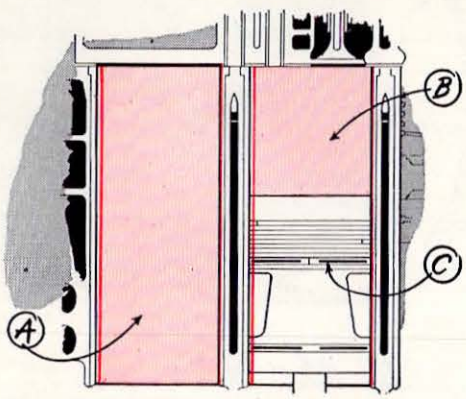

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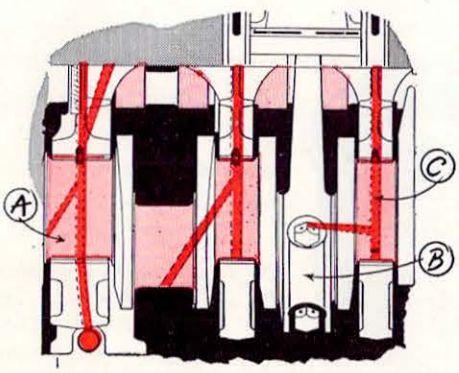

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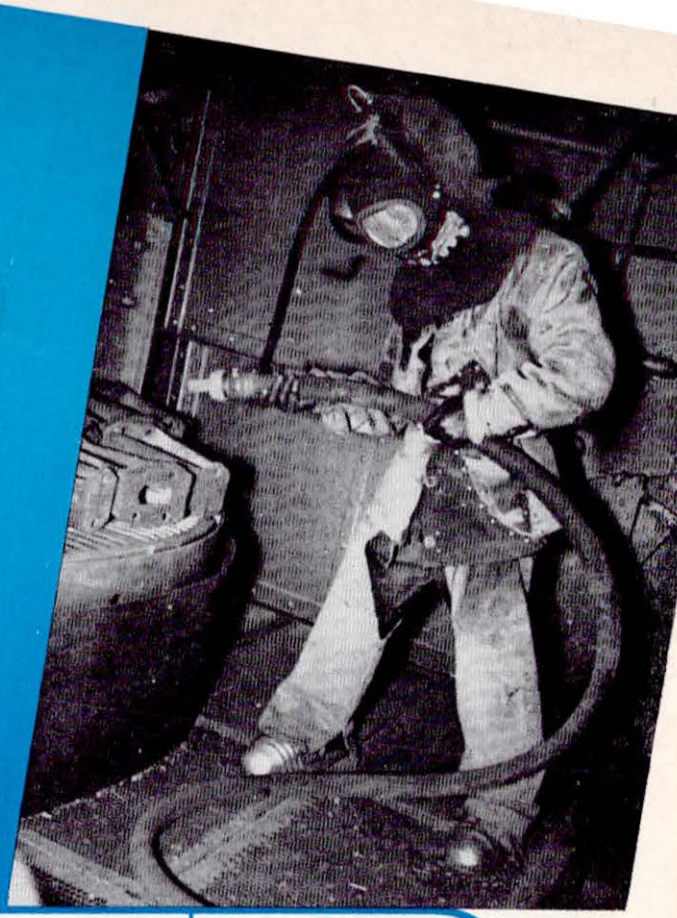

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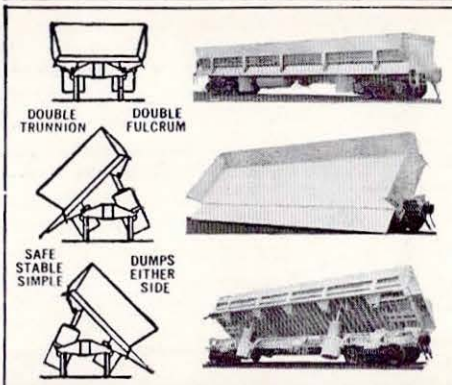

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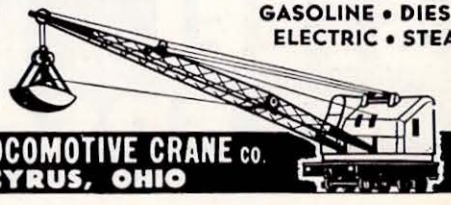

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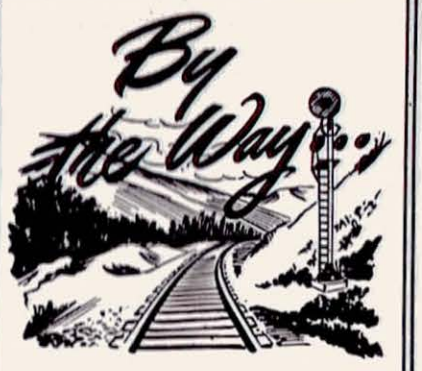

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